The California State University and Colleges

CALIFORNIA STATE UNIVERSITY

LONG BEACH BULLETIN

1978-1979

undergraduate studies

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UNIVERSITY PUBLICATIONS

("S" indicates student publication)

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Economic Inquiry	Department of Economics
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Union (S)	Associated Students
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University Bulletin	Public Affairs and Publications Office
University Review	Public Affairs and Publications Office

Undergraduate Catalog
General Information and
Announcement of Courses

Fall and Spring Semesters 1978-79

The California State University and Colleges

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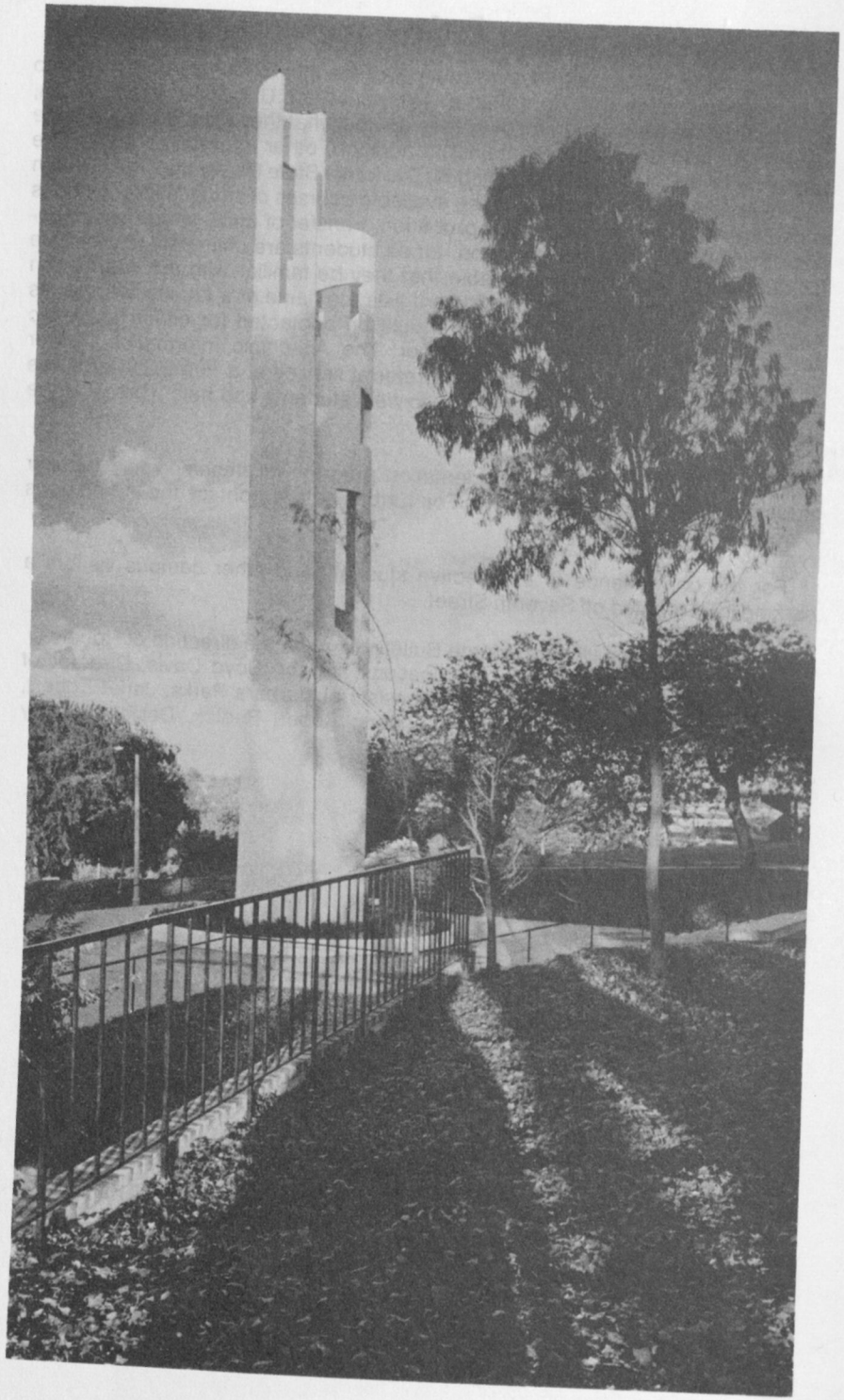
Preface

This Bulletin is designed to provide most of the information students need to decide whether they want to enroll at California State University, Long Beach, what procedure they should follow if they do and what they must do to graduate once they have enrolled. It contains, in addition, other information about The California State University and Colleges, California State University, Long Beach and its administration, faculty and the available courses of study. It also includes statements of policy about grades, probation, transfer of units, special examinations and other pertinent information. Since students are ultimately responsible for their own program, it is advisable that they be familiar with the information relevant to their needs. Each department lists the name of a faculty member as academic advising coordinator who should be contacted for either academic advisement or assignment to an adviser. The Academic Information Center operates an initial student contact and referral service at a Porta-Center in the Student Services/Administration Patio to *help* students find help. Check at the Porta-Center for current hours.

Prior to the fall semester an orientation program for freshmen and transfer students is held at the University. For further details contact the Admissions Office.

For the convenience of prospective students and other campus visitors a parking lot is located off Seventh Street.

Preparation of the Undergraduate Bulletin is under the direction of Ronald D. Albrecht, Director of University Publications and Dr. Boyd Davis, Director of Academic Planning. Production staff consists of Barbara Parks, Janet Egbert, Judy Penley and Georgia Quadres, Editors; Robert Redick, Designer; Gary Moats, Photographer.



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1978-79 Calendar

August 1978

S	M	T	W	T	F	S
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September 1978

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October 1978

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November 1978

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December 1978

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31						

January 1979

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Fall Semester, 1978

August 21 ..... Beginning of fall semester.

August 28 ..... Instruction begins. Refer to *Schedule of Classes.*

August 28 ..... Late registration and change of program.

September 4 ..... Labor Day-holiday.

September 11 ..... Last day to add new classes to program without petitioning.

September 25 ..... Last day to withdraw from a course and not have it appear on permanent records (instructor drops included).

October 21 ..... American College Testing Program Examination.

November 4 ..... CEEB Scholastic Aptitude Test.

November 10 ..... Veterans' Day-holiday.

November 23-24 ..... Thanksgiving recess.

December 2 ..... CEEB Scholastic Aptitude Test.

December 9 ..... American College Testing Program Examination.

December 12 ..... Last day of instruction.

December 13-20 ..... Reading period and final examinations.

December 22 ..... End of fall semester.

December 22 ..... Christmas recess begins.

Winter Session, 1979

January 2-20

February 1979

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April 1979

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May 1979

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June 1979

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July 1979

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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Spring Semester, 1979

January 15 ..... Beginning of spring semester.

January 15-19 ..... Completion of registration. Refer to *Schedule of Classes.*

January 22 ..... Instruction begins.

January 27 ..... CEEB Scholastic Aptitude Test.

February 2 ..... Last day to add new classes to program without petitioning.

February 10 ..... American College Testing Program Examination.

February 16 ..... Last day to withdraw from a course and not have it appear on permanent record (instructor drops included).

February 19 ..... Washington's Birthday-holiday.

April 7 ..... American College Testing Program Examination.

April 9-14 ..... Spring recess.

May 12 ..... Last day of instruction.

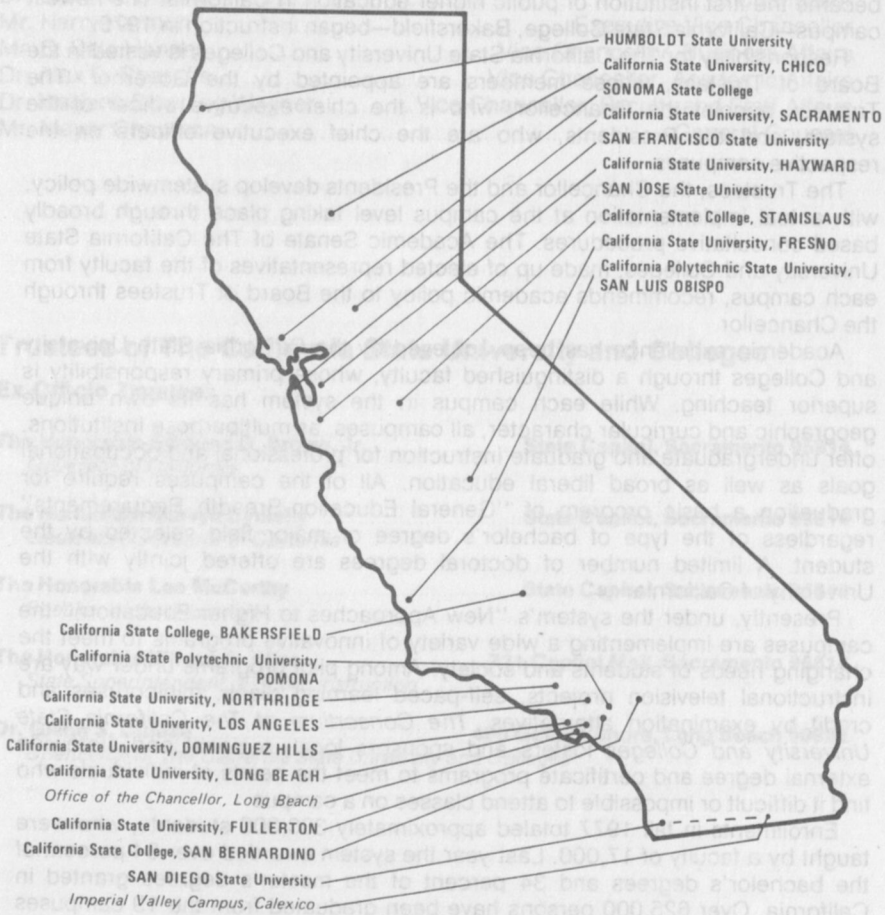
May 14-22 ..... Reading period and final examinations.

May 23-25 ..... Commencements.

May 25 ..... End of spring semester. End of academic year.

May 28 ..... Memorial Day-holiday.

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.

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 1977 totaled approximately 300,000 students, who were taught by a faculty of 17,000. Last year the system awarded over 54 percent of the bachelor's degrees and 34 percent of the master's degrees granted in California. Over 625,000 persons have been graduated from the 19 campuses since 1960.

Office of the Chancellor

The California State University and Colleges
400 Golden Shore
Long Beach, California 90802
(213) 590-5506

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San Diego, California 92182
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Turlock, California 95380
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209 633-2122

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The California State University, Long Beach Advisory Board consists of community leaders interested in the development and welfare of the University. The Board serves the President in an advisory capacity, particularly in matters which affect University and community relations. Members are nominated by the President and appointed by the Board of Trustees for terms of four years.

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Counselor ..... Judith M. Grencik
Counselor ..... Carl T. Grounds
Counseling Psychologist ..... Dorothy Leach
Counseling Psychologist ..... Paul E. Opstad
Counselor ..... Louis A. Preston
Counselor ..... Henry L. Reyna
Counseling Psychologist ..... Karl A. Russell, Jr.
Counseling Psychologist ..... Ned M. Russell
Counseling Psychologist ..... Thomas G. Stevens
Coordinator—Academic Information Center ..... Margaret E. Gerlach
Coordinator—Adult Re-entry Program ..... Marjorie Dole
Coordinator—Explorations in Communication ..... Marri Brennan
Coordinator, Learning Assistance Support System ..... Frank L. Christ
Assistant Coordinator ..... Margaret Coda-Messerle
Director, Veterans Affairs Programs ..... Frank E. Noffke
Assistant to the Director ..... Carolyn Hacker
Coordinator, Veterans Affairs Office ..... Rowland L. Fisher
Lead Veterans Clerk ..... J. Steve Pierce
Chief Test Officer ..... William P. Abbott
Assistant Test Officer ..... Richard E. Cantey
Psychometrist ..... Van Roussos
Director, International Education Center ..... J. Russell Lindquist
Associate Director ..... Alan W. Johnson
Director, Experiential Learning Center ..... Hal Schaffer
Assistant Director ..... Ruby Leavell
Director, Sports, Athletics and Recreation ..... Perry C. Moore
Associate Director, Athletics ..... Robert E. Donlan
Associate Director, Intramurals ..... William Vendl
Associate Director, Women's Sports ..... Frances Schaafsma
Assistant Director, Athletics ..... Craig T. Cross
Sports Information Director ..... Terry Ross
Ticket Manager ..... Stan Olin
Director, Student Development Programs ..... Alan T. Nishio
Associate Director, Educational Opportunities Program ..... Donald Duren
Assistant Director, Counseling ..... Jim H. Matsuoka
Career and Personal Counselor ..... Pearl M. Hodge
Counselor—Continuing Students ..... Freddie L. Davis
Peer Counseling Coordinator ..... Priscilla E. Rojas
Counselor, Talent Search ..... Loretta Enriquez
Counselor, Admissions and Recruitment ..... Paul Peshlakai
Project Director, Student Special Services ..... Marcella G. Chavez
Assistant Director ..... Elzora H. Kaufman
Project Director, Upward Bound ..... Charles Ratliff
Assistant Director ..... Raymond DeLeon
Project Director, Talent Search ..... Ramon Cruz

Deans of Schools, Department Chairmen and Program Coordinators

School of Applied Arts and Sciences ..... C. Thomas Dean
Associate Dean ..... Floyd M. Grainge
Associate Dean ..... John J. McConnell
Criminal Justice ..... Gary B. Adams
Health Science ..... Peter A. Cortese
Home Economics ..... Merna A. Samples
Industrial Education ..... Leonard Torres
Industrial Technology ..... Glenn E. Hayes
Nursing ..... Joan Cobin
Physical Education ..... Marguerite A. Clifton
Physical Therapy ..... Frank J. Bok
Recreation and Leisure Studies ..... Marilyn A. Jensen
Center for Career Studies ..... Norman R. Stanger
School of Business Administration ..... Seymour Marshak
Administrative Assistant ..... Hilary B. Poochigian
Associate Dean ..... John T. Martinelli
Bureau of Business Services and Research ..... Phil Mitchell
International Business Center ..... Feliksas Palubinskas
Accounting ..... Truman Hickerson, Jr.
Finance ..... Gene P. Morris
Human Resources Management ..... Carl E. Gregory
Management ..... Annabelle J. Sartore
Marketing ..... Robert W. Frye
Quantitative Systems ..... L. Lincoln Chao
School of Education ..... John A. Nelson, Jr.
Associate Dean—Graduate Studies & Research ..... Joan Michael
Associate Dean—Professional Programs ..... Richard J. Johnson
Director of Support Services and Planning ..... John A. McAnlis
Educational Administration ..... Neil V. Sullivan
Educational Psychology and Social Foundations ..... Ralph C. Graetz
Elementary Education ..... Charles L. Myers
Instructional Media ..... Richard J. Johnson
Secondary Education ..... Harold V. Graham
School of Engineering ..... Richard C. Potter
Associate Dean ..... Willard H. Reed
Administrative Assistant ..... Maxine McCurnin
Chemical Engineering ..... John M. Lenoir
Civil Engineering ..... Chunduri V. Chelapati
Electrical Engineering ..... Edward N. Evans
Mechanical Engineering ..... Hillar Unt
School of Fine Arts ..... John R. Watts
Administrative Assistant ..... Sue T. Elliott
Art ..... Howard G. Hitchcock
Dance ..... Pat R. Finot
Music ..... Gerald R. Daniel
Theatre Arts ..... Ralph W. Duckwall
School of Humanities ..... Ronald L. Applbaum
Administrative Assistant ..... Frank Costa
Associate Dean ..... Charles W. Austin
Associate Dean ..... Mary J. Purcell

Dean of Schools (Continued)

American Language Program	Stephen B. Ross
American Studies	Albert Gunns
Communicative Disorders	Bruce P. Ryan
Comparative Literature	Thomas Hubble
English	Eileen E. Lothamer
French/Italian	Frederick M. Swensen
German/Classics	Johanna Roden
Journalism	Benjamin H. Cunningham
Language Skills	Kakwasi Somadhi
Linguistics	Janet B. Sawyer
Mathematics	Arthur P. Gittleman
Philosophy	William M. Johnson
Radio-TV	Robert Finney
Religious Studies	Alexander Lipski
Spanish/Portuguese	Daniel N. Cárdenas
Speech Communication	Karl Anatol
School of Natural Sciences	Roger D. Bauer
Administrative Assistant	Wilma Eyer
Associate Dean	Lee B. Stephens
Biology	Frank J. Alfieri
Chemistry	Kenneth L. Marsi
Geological Sciences	Paul J. Fritts
Microbiology	Frank E. Swatek
Physics-Astronomy	John E. Fredrickson
Center for Environmental Studies	Roswitha B. Grannell
School of Social and Behavioral Sciences	Simeon J. Crowther
Associate Dean	Fen Rhodes
Associate Dean	A. Jay Stevens
American Indian Studies	Richard W. Band
Anthropology	Thomas H. McCorkle
Asian American Studies	Franklin Odo
Center for Asian Studies	Charlotte Furth
Black Studies	Skyne R. Uku
Economics	J. Richard Powell
Geography	Frederick H. Scantling
History	Jack M. Stuart
Center for Latin American Studies	William Svec
Mexican American Studies	Federico A. Sanchez
Political Science	Ronald J. Schmidt
Psychology	Raphael M. Hanson
Social Welfare	Warren Ponsar
Sociology	M. Glenn Walker
Center for Urban Studies	Margaret Stark
Center for Women's Studies	Dorothy Z. Abrahamse
	Donna I. Dempster

University Councils and Committees

The Academic Senate is the basic advisory body of the faculty. The Academic Senate councils and standing committees are the following:

ADP and Information Services Advisory
Affirmative Action
Campus/Police Relations
Committee on Committees
Ecological and Environmental Practices
Elections
Financial Affairs Council
Graduate Council
Innovative Proposals Review
International Programs
Judiciary
Legislative and Public Relations
Library
Mass Communications Commission
Matriculation and Registration
Panel on Professional Standards and Ethics
Personnel Policies and Practices
Planning and Educational Policies Council
Research
Rules
Scholarships and Loans
Scholastic Standards
Student Affairs
Student Conduct Advisory
Student Housing
Teacher Education Council
Television
University Committee for Sports, Athletics, and Recreation
University Operations
University Organization and Administration Affairs

The University

History

The University was founded in 1949 as Los Angeles-Orange County State College mainly to serve the area of Orange County and southeastern Los Angeles County. It began instruction in temporary, rented facilities in Long Beach with a faculty of 13 and a student body of 160 juniors, seniors and graduate students.

In 1950 the City of Long Beach donated a one-million-dollar 320-acre permanent site for the college and the name was changed to Long Beach State College. By 1953 construction started on the first permanent facilities and the first freshmen and sophomores were enrolled. Formal dedication ceremonies were held in 1955.

The institution was renamed California State College at Long Beach in 1964, California State College, Long Beach in 1968 and in June of 1972 the Legislature recognized in name what had long existed in fact by designating it California State University, Long Beach.

In 1974 the University celebrated its 25th anniversary and had become the largest of the 19 campuses within The California State University and Colleges system. Its total enrollment reaches almost 33,000 students from nearly every state in the country and 90 foreign countries, taught by a full and part-time faculty of more than 1,600 and supported by a staff of some 1,000.

Purpose

The University provides instruction "through the master's degree, in the liberal arts and sciences, in applied fields and in the professions, including the teaching profession." Its unique balance of professional and liberal arts programs allows a wide and highly exciting range of career and educational opportunities.

Accreditation

The University is accredited by the Western Association of Schools and Colleges, the agency responsible for granting national accreditation to colleges and universities in the western United States. It is accredited by the California State Board of Education and is on the list of approved institutions of the American Association of University Women.

Professional degree programs offered by the University and national associations and societies accrediting these programs are as follows:

Art	National Association of Schools of Art
Business Administration	National Assembly of Collegiate Schools of Business
Chemistry (undergraduate)	American Chemical Society, Committee on Professional Training
Communicative Disorders (graduate)	American Speech and Hearing Association, Education and Training Board
Engineering (undergraduate) (Civil, Computer, Electrical, Materials, Mechanical, Ocean)	Engineers' Council for Professional Development
Home Economics	American Home Economics Association
Music	National Association of Schools of Music
Nursing	National League for Nursing
Physical Therapy	American Physical Therapy Association
Recreation and Leisure Studies	National Recreation and Park Association Council of Accreditation
Social Welfare	Council on Social Work Education
Teacher Education	National Council for Accreditation of Teacher Education
Theatre Arts	National Association of Schools of Theatre

Memberships

The University holds membership in the following:

Administrative Management Society
Alliance of California Arts Council
American Assembly of Collegiate Schools of Business
American Association for Affirmative Action
American Association for Higher Education
American Association of Collegiate Registrars and Admissions Officers
American Association of State Colleges and Universities
American Association of University Administration
American Council of Education for Journalism
American Council on Education
American Federation of Arts
American Home Economics Association
American Personnel and Guidance Association
American Philosophical Association
American Physical Therapy Association
American Society for Engineering Education
American Society for Industrial Security
American Society for Training and Development
American Society of Allied Health Professions

American Society of Journalism School Administrators
American Speech and Hearing Association
Association for Educational Communications and Technology
Association for General and Liberal Studies
Association for Intercollegiate Athletics for Women (AIAW)
Association for School, College and University Staffing
Association for University Business and Economic Research
Association of Administrators of Home Economics
Association of American Colleges
Association of California School Administrators
Association of College and University Auditors
Association of College and University Housing Officers
Association of College, University and Community Arts Administrators, Inc.
Association of Departments of English
Association of Departments of Foreign Languages
Association of Physical Plant Administrators of Universities and Colleges (APPA)
Association of Record Managers and Administrators
Audio Engineering Society, Inc.
Broadcast Education Association
California Association of College and University Housing Officers
California Association of Dance Companies
California Association of Police Training Officers
California Association of Public Purchasing Officers
California Check Investigators Association
California Council on the Education of Teachers
California Educational Placement Association
California Media and Library Educators Association
California Newspaper Publishers Association
California Peace Officers Association
California Personnel and Guidance Association/California College Personnel Association Division
California Personnel and Guidance Association and California School Counselors Association
College Art Association
College Entrance Examination Board
College Placement Council
Consortium of Latin American Studies Programs
Cooperative Assessment of Experiential Learning (CAEL)
Cooperative Education Association
Council for Advancement and Support of Education
Council of Educational Facility Planners, International
Council of Graduate Schools in the United States
Council of University Institutes for Urban Affairs
Council on Social Work Education
Engineers Council for Professional Development
Foundation for Interior Design Education Research
Greater Los Angeles Press Club
Information Film Producers of America, Inc.
Institute of Electrical and Electronic Engineers
Institute of International Education, Inc.
Institutional and Municipal Parking Congress
International Association of Chiefs of Police
International Association of College and University Security Directors
International Industrial Television Association (ITVA)

International Union of Anthropological and Ethnological Sciences
Long Beach Chamber of Commerce
Los Angeles Area Chamber of Commerce
National Association for Foreign Student Affairs
National Association of College and University Business Officers
National Association of Educational Broadcasters
National Association of Educational Buyers
National Association of School Psychologists
National Association of Schools of Art
National Association of Schools of Music
National Association of Schools of Public Affairs and Administration and Institutional Affiliation with American Society for Public Administration
National Association of Schools of Theatre (NAST)
National Association of Student Financial Aid Administrators
National Association of Student Personnel Administrators
National Association of Veterans Program Administrators
National Association of Women Deans and Counselors
National Collegiate Athletic Association
National Collegiate Honors Council
National Council for Accreditation of Teacher Education
National League for Nursing
National Rehabilitation Association
National Safety Council
National University Extension Association
North American Association of Summer Sessions
Pacific Association of Collegiate Registrars and Admissions Officers
Pacific Coast Athletic Association
Pacific Coast College Health Association
Pacific Coast Press Club
Peace Officers Association of Los Angeles County
Public Corporation for the Arts
Public Relations Society of America
Social Science History Association
Society for College and University Planning
Society of Motion Picture and Television Engineers
Southern California Conference on International Studies
Southern California Industrial Safety Society
Speech Communication Association
Student Competitions on Relevant Engineering, Inc.
Student Personnel Association of California
Tele-Communications Association
Town Hall of California
University Resident Theatre Association (URTA)
Western Association of Art Museums
Western Association of College and University Business Officers
Western Association of Graduate Schools
Western Association of Schools and Colleges
Western Association of Summer Session Administrators
Western College Association
Western College Placement Association
Western Collegiate Athletic Association
Western Council on Higher Education for Nursing
Western Economics Association
Western Interstate Commission for Higher Education
Western Speech Communication

Buildings and Facilities

The hilltop portion on the 322-acre campus overlooks the Pacific Ocean. 58 permanent buildings house the Schools of Applied Arts and Sciences, Business Administration, Education, Engineering, Fine Arts, Humanities, the Natural Sciences and Social and Behavioral Sciences. An impressive University Student Union is located at the crossroads of the campus providing a focal point for the total campus community. A new facility for Social Sciences/Public Affairs and a centralized Student Services/Administration center in close proximity to the Union adds needed services, disperses the concentration of population now on the hill and enables the University to "grow larger in order to become smaller." Specialized facilities for Industrial Technology, Microbiology and Nursing have recently been completed.

A central feature of the landscape design is a planting of Helen Borcher flowering peaches which now include more than 3,200 trees donated by the citizens of Long Beach. Secluded landscape areas and buildings of appropriate scale help maintain a learning environment that encourages small group identification and personal privacy in the midst of 33,000 individuals sharing the same site, on what is essentially a large urban campus.

The campus is beginning to assume a highly individual character. In 1965, the International Sculpture Symposium contributed 9 monumental pieces and designs to the University. These works received credits in 21 national and international publications, and in 1972 additional community funds in the form of a trust provided for the completion of the Carlson Memorial Tower, designed by French sculptor Andre Bloc. The campus sculpture collection has continued to expand with the addition of works by Tom Van Sant in 1973, and Guy Dill in 1975. These acquisitions were made possible through private donations.

A gift of $250,000 from an alumna, Isabel Patterson, who registered in the University's first class, permitted construction of the Isabel Patterson Child Development Center on a site adjacent to Whaley Park. The project, originally initiated with $50,000 contributed by the Associated Students, provides educational opportunity for more than 260 preschool children each semester.

The Recycling Center, a non-profit Associated Students function to promote environmental awareness and waste reduction, was opened in early 1977.

The Library

The University Library is housed in a modern, six-story building. It has over 650,000 volumes and 5,096 current periodical subscriptions. The book collection is supplemented by bound periodicals, art prints, slides, sound recordings, television cassettes, micro-texts, film strips and a map collection. The Library is divided into five major subject areas: fine arts, education, humanities, social science/business, and science and technology, with special reading rooms for each. In addition, there is a media resources library, periodicals/reserve book room, bibliography room, micro-text center, government documents collection, special collections and archives. Special services include typing rooms, copying machines, viewing and listening rooms and a computer bibliographic facility.

The University Student Union

Completed in 1972, the University Student Union with its large interior patios, flexible multipurpose and meeting/dining rooms, comfortable lounges and food service facilities, is the campus community and hospitality center. It houses the educational program of out-of-class activities and serves as headquarters for the Associated Students government and business office, Student Activities,

University-related student groups, Women's Referral Center, CIEE Student Travel, Legal Counseling, Sex Information, United Campus Ministries, Handicapped Students, Experiential Learning and the University Alumni Office.

The Union provides an information desk which is designed to handle questions of any kind and offers various sundry items for sale. A Ride Board is provided for students interested in forming car pools to or from school and during vacation periods. The scheduling office provides a central scheduling and coordinating service for the entire campus, including a visual Master Calendar for daily events. The Student Activities area provides mail boxes, organizational files and work space for all student groups. The Union Food Service provides catering service for coffee hours, breakfasts, luncheons and banquets with a wide variety of menus.

Recreational facilities in the Games Area include bowling, billiards, table tennis, pinball, table games and a television lounge. For outdoor recreational enjoyment a swimming pool, shower facilities and outdoor barbecue are available. The Sporthaus offers backpacking and ski equipment rental at reasonable prices. The Crafts and Graphics Center offers silkscreen, graphic arts and photography equipment complete with a darkroom. Tournaments, workshops, team and other group activities are planned to enhance recreational experiences.

The large multi-purpose room, meeting and dining rooms and the small auditorium provide a variety of facilities to various organizations for meetings, speakers, dances and concerts as well as luncheons and banquets.

A recent addition to the Union facilities is the Oak Room, a membership lounge/luncheon area for faculty and staff. It is available to student groups for meetings and dinners in the late afternoon and weekends.

University Recreation Facilities

The University provides fee-based public use of the racquet/handball courts, tennis courts, golf driving range, track, and field on weekends, holidays, and on weekday evenings when facilities are not reserved for classes, instruction, athletic team events, or programs scheduled by the University.

The recreation facilities program is designed to provide maximum public use. A scheduling policy for racquet/handball and tennis courts allows users to reserve a court the day they want to play.

In addition to the reservation service, student supervisors now provide users with information on upcoming facilities reservations for special events such as tournaments and classes.

Recreation facilities fees were established by The California State University and Colleges Office of the Chancellor through Executive Order 243 to provide supervision, liability insurance, replace worn equipment, and make repairs.

Previous to the Recreational Facilities fee schedule program, damage and wear expenses were absorbed by the University. However, funds received for the instructional programs are based on enrollment. These can only be used to maintain facilities used exclusively by instructional programs. In order to keep these facilities available to the public, additional funds are required.

For information call William R. Bovee, Director of Weekend and Evening Recreation Program, (213) 498-4093, (Office: P.E. 326).

The Forty-Niner Shops

The Forty-Niner Shops, Inc., is a nonprofit corporation which operates the University Bookstore and the University Food Service. In addition to required

textbooks, the Bookstore offers reference and popular books, stationery supplies and miscellaneous items for personal use. The University Food Service, composed of the main cafeteria, residence hall cafeteria, University Union food service and the mobile chuck wagon service located at other central gathering areas on campus, provides food service for the entire University.

Isabel Patterson Child Development Center

This modern facility is a result of a major gift by alumna Isabel Patterson, who was one of the first students to enroll at CSULB in 1949. Additional funds came from the Associated Students and the California State University, Long Beach Foundation.

The Center provides a child development program which is available to the children of students, faculty, staff, administrators and other community members. Students are given priority in registering if space is limited. The Center services children from ages two and a half through five at all times. Children up to the age of eight may attend the Center when public schools are not in session. Children two years of age may attend during winter and summer sessions. Hours are 7 a.m. to 6:30 p.m. Monday through Thursday, 7 a.m. to 5:30 p.m. on Fridays during fall and spring semesters and until 5:30 p.m. during vacations and other sessions.

The Center employs professional staff members and students who are studying child development and early childhood education. Academic departments utilize the center for observation and practical experience by students in the field. Child development and day camp programs are also available during the summer.

The Soroptimist House

The Soroptimist House, which was presented to the Associated Students by the Soroptimist Club of Long Beach, provides a facility for parties, receptions and informal meetings. It has a terraced patio for outdoor events, carpeted lounge, a complete kitchen and a dance area available for scheduling by all campus organizations and departments. The Soroptimist House has a small, intimate home-like setting.

Reservations may be made at the Scheduling Desk in the University Student Union.

International Sculpture Symposium

The monumental sculpture which is visible around the campus is a result of the first International Sculpture Symposium ever to be held in the United States. Held in the summer of 1965, the Symposium not only brought fame to the University as the birthplace of sculpture symposia in the nation, but also marked it as the first college or university in the world to sponsor such an event.

Another of the unique aspects of the Symposium was the cooperation of Southern California industry in this cultural embellishment, termed by many a "wedding of industry and art."

Valued at approximately $300,000, the sculpture was financed by individuals and industries who realized the valuable implications of such a cultural undertaking.

The participants were sculptors Kengiro Azuma of Japan, J. J. Beljon of Holland, Andre Bloc of France, Kosso Eloul of Israel, Claire Falkenstein and

Gabriel Kohn of the U.S., Piotr Kowalski, a Pole living in France, Robert Murray of Canada and muralist Rita Letendre of Canada. In addition to the work of these artists, art students serving as their apprentices created a wood sculpture which is permanently located at one of the primary entrances to the campus.

University Foundation

The California State University, Long Beach Foundation is a nonprofit, tax-exempt corporation organized to administer grants from governmental and private agencies for research and other activities related to the University program, and to accept donations, gifts and bequests for any University-related use, and provide a tax-deductible advantage to the donor.

The research and other activities involving the Foundation are related directly to the academic program. They usually involve substantial interaction between faculty and students. Often, the outside community is also involved and participates in the benefits of the projects.

Donations, gifts and bequests provide a significant addition to the accomplishments of the University. Public funds provide the support for instructional and instructionally-related activities and facilities, but much more can be done with private contributions, such as student scholarships and creative faculty efforts which extend beyond normal instructionally-supported areas.

Facilities which cannot be provided through available public funding also depend upon outside contributions. The beautiful Louise Carlson Memorial Tower (designed by the late French sculptor Andre Bloc) and the Isabel Patterson Child Development Center are outstanding examples of such bequests.

Because Foundation resources can be allocated with greater flexibility than those of the University itself, they possess an added potential for responding to the changing needs of society and the community, including the financing of innovative projects.

Counseling and consulting services are available to potential donors. Information can be secured from the Foundation office on the campus or by addressing a letter to the California State University, Long Beach Foundation.

Alumni Association

Organized in 1950, the Alumni Association has more than 50,000 members. Its major objectives are to advance the general welfare of California State University, Long Beach, to serve its members, to promote good will in the community and to provide support for the educational and charitable projects for the University.

All graduates or persons who attended the University as regular registered students for a period of one semester or more and who left in good standing are eligible for membership in the Association. Associate memberships for friends and supporters who have not attended the University are also available. For membership information contact the Alumni Office at the University. To keep abreast of Alumni Association activities and programs, members are urged to have a current address on file in the Alumni Office.

The Association serves its members through sponsorship and/or participation in continuing education progams; academic, athletic, and cultural programs; library and University Union privileges; job placement and career counseling services; and University publications. Association membership also provides access to many commercial services, usually at reduced prices.

Fine Arts Public Performances and Exhibitions

The School of Fine Arts, composed of the departments of art, dance, music and theatre arts, sponsors more than 175 art exhibitions, plays, concerts and dance events each year. Some of these presentations are by professionals invited to campus for various kinds of residency programs; most are works developed by faculty and student artists.

The Fine Arts Galleries (A, B and C), located between buildings FA2 and FA3, provide programs and exhibitions in the visual arts for the entire University community. Included are exhibitions of the work of nationally known artists, historic exhibitions, the exhibitions of the Museum Studies Certificate Program and the Center for Southern California Studies in the Visual Arts. There are also displays of work by M.A. and M.F.A. students in the Art Department and biennial exhibits of work by members of the Art Department faculty. Special lectures and programs are often included. All events are free of charge and open to the public. Gallery hours are: 12-4 p.m. Monday-Friday; 1-4 p.m. Sunday. The Galleries are closed Saturdays and university holidays.

Tickets for all dance, music and theatre arts performances are sold through the CSULB Fine Arts Ticket Office located in the southwest corner of the Theatre Arts Building. The Ticket Office is open from 10 a.m. to 4 p.m. Monday-Friday and is open one hour prior to performance. Faculty, staff and student rates are available for most performances.

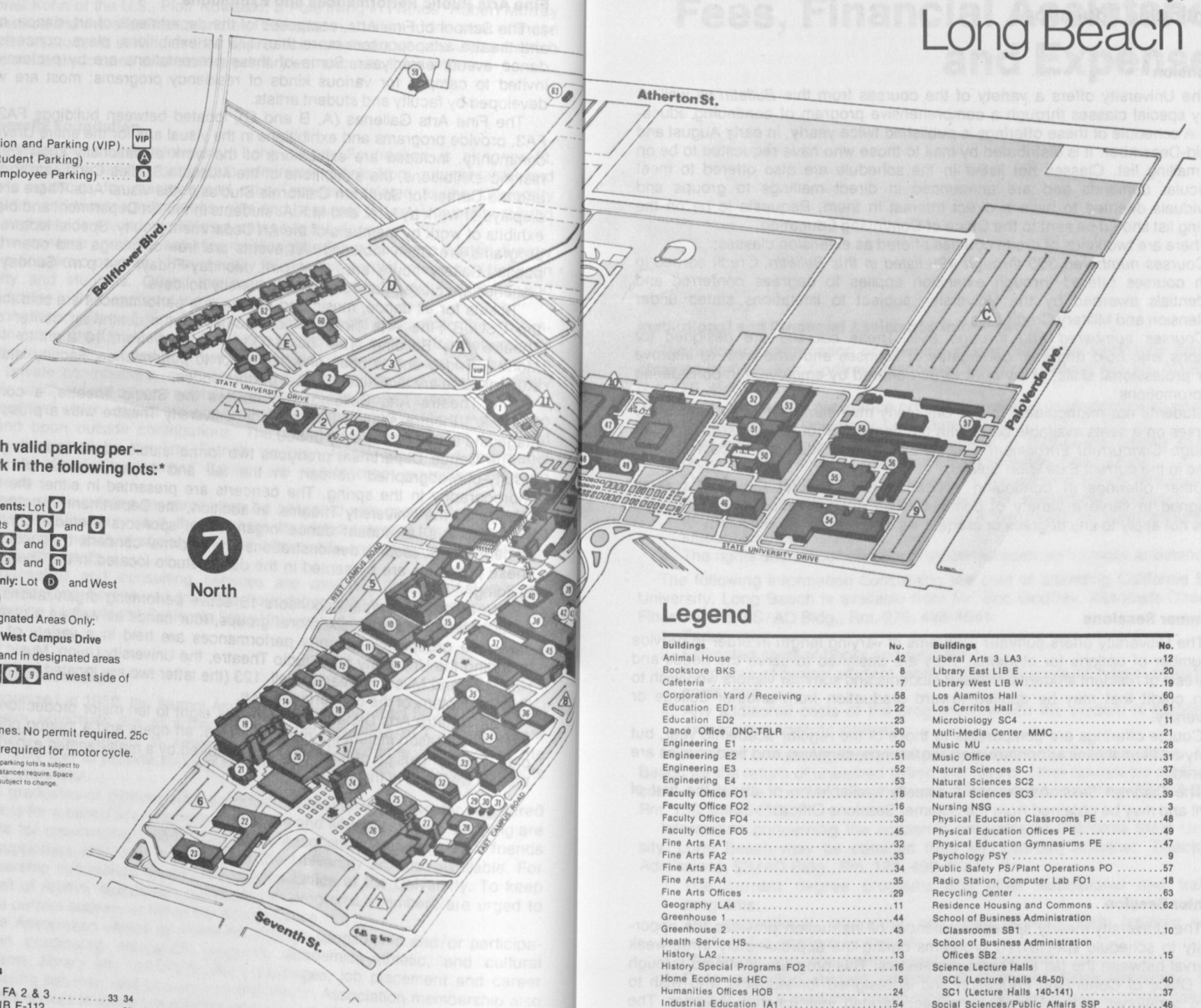
The Theatre Arts Building also houses the Studio Theatre, a complete "flexible" theatre seating 230 and the University Theatre with a proscenium stage and a seating capacity of 509.

The Dance Department produces two formal studio concerts each year, a faculty-choreographed concert in the fall and a performance of student choreography in the spring. The concerts are presented in either the Studio Theatre or the University Theatre. In addition, the Department in conjunction with Orchesis, a student dance organization, sponsors a studio concert of student works, lecture demonstrations and informal concerts by guest artists. These programs are presented in the dance studio located in the Theatre Arts Building.

The Music Department sponsors 18 active performing organizations which include two orchestras, six choral groups, four bands as well as a number of ensemble groups. On-campus performances are held in a variety of places including the University and Studio Theatre, the University Union, Music Recital Hall, 127 and Music Rehearsal Hall, 123 (the latter two are located in the Music Building). Many of the concerts are free.

The Theatre Arts Department produces eight to ten major productions each year. The season includes a musical drama, an opera and a touring children's play. The conclusion of each season is marked by a multi-faceted experimental theatre weekend in the spring.

California State University, Long Beach



Parking Areas

Visitor Information and Parking (VIP) ..... VIP
A through E (Student Parking) ..... A
1 through 11 (Employee Parking) ..... B

Students with valid parking permits may park in the following lots:*

All times: Lot B

Health Center Patients: Lot 1

After 5:30 p.m.: Lots 3 7 and 9

After 6 p.m.: Lots 4 and 6

After 7 p.m.: Lots 5 and 11

Dorm Residents Only: Lot D and West end of Lot E

Motorcycles: Designated Areas Only:
Compound on West Campus Drive opposite LA-1 and in designated areas of Lots 4 5 7 9 and west side of Engineering.

Coin Operated:
Lot C all times. No permit required. 25c to exit. Permit required for motorcycle.

*Permission to park in various parking lots is subject to cancellation as special circumstances require. Space availability and time schedule subject to change.

Special Event Sites

Fine Arts Galleries FA 2 & 3 ..... 33 34
Graduate Center LIB E-112 20
Gymnasiums 47
Studio Theatre 26
University Theatre 26
University Multi-Purpose Rooms 6

Legend

Buildings	No.
Animal House	42
Bookstore BKS	8
Cafeteria	7
Corporation Yard / Receiving	58
Education ED1	22
Education ED2	23
Dance Office DNC-TRLR	30
Engineering E1	50
Engineering E2	51
Engineering E3	52
Engineering E4	53
Faculty Office FO1	18
Faculty Office FO2	16
Faculty Office FO4	36
Faculty Office FO5	45
Fine Arts FA1	32
Fine Arts FA2	33
Fine Arts FA3	34
Fine Arts FA4	35
Fine Arts Offices	29
Geography LA4	11
Greenhouse 1	44
Greenhouse 2	43
Health Service HS	2
History LA2	13
History Special Programs FO2	16
Home Economics HEC	5
Humanities Offices HOB	24
Industrial Education IA1	54
Industrial Education IA2	55
Industrial Technology IT	56
Instructional Media LA1	14
Isabel Patterson Child Development Center	59
Journalism SSP	46
Language Arts LAB	25
Lecture Halls LH 150/151	17

Buildings	No.
Liberal Arts 3 LA3	12
Library East LIB E	20
Library West LIB W	19
Los Alamitos Hall	60
Los Cerritos Hall	61
Microbiology SC4	11
Multi-Media Center MMC	21
Music MU	28
Music Office	31
Natural Sciences SC1	37
Natural Sciences SC2	38
Natural Sciences SC3	39
Nursing NSG	3
Physical Education Classrooms PE	48
Physical Education Offices PE	49
Physical Education Gymnasiums PE	47
Psychology PSY	9
Public Safety PS/Plant Operations PO	57
Radio Station, Computer Lab FO1	18
Recycling Center	63
Residence Housing and Commons	62
School of Business Administration Classrooms SB1	10
School of Business Administration Offices SB2	15
Science Lecture Halls SCL (Lecture Halls 48-50)	40
Science Lecture Halls SC1 (Lecture Halls 140-141)	37
Social Sciences/Public Affairs SSP	46
Soroptimist House	4
Student Services/Administration SSA	1
Student Health HS	2
Studio Theatre TA	26
University Gymnasiums	47
University Union SU	6
University Theatre TH	27

Continuing Education

Extension

The University offers a variety of the courses from this *Bulletin* as well as many special classes through a comprehensive program of continuing education. A schedule of these offerings is published twice yearly, in early August and in mid-December. It is distributed by mail to those who have requested to be on the mailing list. Classes not listed in the schedule are also offered to meet particular demands and are announced in direct mailings to groups and individuals deemed to have a direct interest in them. Requests to be on the mailing list should be sent to the Office of Continuing Education.

There are two kinds of credit courses offered as extension classes:

Courses numbered 300 through 499 listed in this Bulletin. Credit earned in such courses offered through extension applies to degrees conferred and credentials awarded by the University, subject to limitations stated under "Extension and Military Credit."

Courses numbered 800 through 899. These courses are designed for persons who hold degrees, certificates or licenses and who wish to improve their professional skills, or as work to be honored by employers in considering job promotions.

Students not matriculated in the University may sample selected university courses on a seats available basis with the permission of the Department Chair through *Concurrent Enrollment.* Full details on procedures and cost may be found in the current Extension Bulletin.

Other offerings in continuing education are non-credit special classes designed to serve a variety of community educational needs. Credit earned does not apply to any degrees or credentials awarded by the University.

Summer Sessions

The University offers summer programs of varying length in order to provide a number of options for students. They are designed to serve the needs and interests of resident students, transfer students and summer visitors who wish to earn credit that may be applied toward graduation from another college or university.

Course offerings are comparable to those of the regular academic year, but many additional clinics, conferences, workshops, seminars and field studies are offered.

The *Summer Sessions Bulletin* is usually available on or about the first of April and may be obtained from the Summer Sessions Office.

Winter Session

The University's early semester calendar of instruction provides the opportunity to schedule specialized programs during the approximately three-week interval between the fall and spring semesters. This program is offered through the Office of Continuing Education and is designed for students who wish to earn additional units of credit in an accelerated instructional calendar. The schedule of offerings is available on or about the last week in November.

Fees, Financial Assistance and Expenses

Institutional and Financial Assistance Information

The following information concerning student financial assistance may be obtained from Mr. Eric Godfrey, Associate Director, Financial Aid, SS/AD Bldg., Rm. 276, 498-4641:

1. Student financial assistance programs available to students who enroll at California State University, Long Beach;
2. The method by which such assistance is distributed among student recipients who enroll at California State University, Long Beach;
3. The means, including forms, by which applications for student financial assistance is made; the requirement for accurately preparing such applications; and the review standards employed to make awards for student financial assistance; and
4. The rights and responsibilities of students receiving financial assistance.

The following information concerning the cost of attending California State University, Long Beach is available from Mr. Eric Godfrey, Associate Director, Financial Aid, SS/AD Bldg., Rm. 276, 498-4641:

1. Tuition fees;
2. Estimated costs of books and supplies;
3. Estimates of typical student room and board costs or typical community costs; and
4. Any additional costs of the program in which the student is enrolled or expresses a specific interest.

Information concerning the refund policy of California State University, Long Beach for the return of unearned tuition and fees or other refundable portions of costs is available from Mr. Joseph Kolano, Director of Accounting, SS/AD Bldg., Rm. 156, 498-5456.

Information concerning the academic programs of California State University, Long Beach may be obtained from Mr. Leonard Kreutner, Director of Admissions, SS/AD Bldg., Rm. 123, 498-4141:

1. The current degree programs and other educational and training programs;
2. The instructional, laboratory, and other physical plant facilities which relate to the academic program;
3. The faculty and other instructional personnel; and
4. Data regarding student retention at California State University, Long Beach and, if available, the number and percentage of students completing the program in which the student is enrolled or expresses interest.

Schedule of Fees, 1978-79

Tuition is not charged to legal residents of California. The following reflects the fees and expenses for the semester system.

All students are charged the following fees and expenses each semester: Fees are subject to change without advance notice.

All Students

	Number of Units		Number of Units	
	Fall, 1978		Spring, 1979	
	1-6.0	6.1 or more	1-6.0	6.1 or more
Student Services Fee	$57.00	$72.00	$59.00	$74.00
Facilities Fee	3.00	3.00	3.00	3.00
Instructionally Related Activity Fee[3]	5.00	5.00	5.00	5.00
Student Body Fee	10.00	10.00	10.00	10.00
University Union Fee	10.00	13.00	10.00	13.00
Total Per Semester	$85.00	$103.00	$87.00	$105.00

Nonresidents (U.S. and Foreign)[1]

Non resident tuition (15 or more units) maximum	$855.00
(less than 15 units) per units or fraction	57.00

Note: The total amount of nonresident tuition charged shall not exceed $1,710 per academic year.

Summer Session

Fee per unit	$ 39.00
University Union fee per session	5.00
Student Body fee per session	1.00
Health fee per session	3.00

Extension[2]

Extension tuition

Lecture or discussion course, per unit	$ 37.00
Activity course, per unit	45.50
Science laboratory course, per unit	70.00

[1] Non residents and foreign-visa students must pay tuition each semester in addition to fees and expenses charged all students (California residents).

Foreign visa students may request installment payment of their non-resident tuition fees from their foreign student advisor. A 10 percent service charge is added to each installment. No more than three installments will be allowed each semester.

[2] Certain courses may require material fee.

[3] At press time amount of fee not determined; by law cannot exceed $5.00 per semester.

Other Fees or Charges

Application (and reapplication) fee (non-refundable) payable by check or money order at time application is made	$ 20.00
Late registration fee (non-refundable)	5.00
Student identification card	1.00
Failure to meet administratively required appointment or time limit	2.00
Check returned for any cause	5.00
Complete transcript of record	1.00
Diploma fee	8.00
Organ practice, per student, per semester	10.00
Organ practice, per student, per summer session per week	.50
Parking fee per semester for all students	15.00
Parking fee per semester for less than four-wheeled self-propelled vehicles—automotive	3.75
Residence hall room and board fee per academic year depending on type of accommodations (approximate)	$1,575 to $1,800

Auditors Pay the Same Fees as Others
Fees are Subject to Change Without Advance Notice
Full Payment of Registration and Activity Fees must be Made at Time of Registration

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 (Education Code Section 23762).

Student Services Fee

A Student Service Fee was established by the Board of Trustees of The California State University and Colleges in January 1975. Previously, this fee was known as the Materials and Service Fee.

The student services fee provides financing for the following student services programs not covered by state funding:

1) Social and Cultural Development Activities: provides for the coordination of various student activities, student organizations, student government, and cultural programs.
2) Counseling: includes the cost of counselor's salaries and clerical support plus operating expenses and equipment.
3) Testing: covers the cost of test officers, psychometrists, clerical support, operating expenses, and equipment.
4) Placement: provides career information to students and faculty for academic program planning and employment information to graduates and students.
5) Financial Aids Administration: includes the cost of the counseling and business services provided in connection with the financial aid programs.
6) Health Services: provides health services to students and covers the cost of salaries of medical officers and nurses plus related clerical and technical personnel as well as operating expenses and equipment.
7) Housing: includes the cost of personnel providing student housing information and monitoring housing services.

8) Student Services Administration: covers 50% of the cost of the Dean of Students Office which has responsibility for the overall administration of student services.

Refund of Fees

Fees may be refunded only as authorized by Sections 41802, 41803, and 41913 of Title 5, *California Administrative Code*. Whether a fee may be refunded and the circumstances under which a fee or any part of a fee may be refunded, vary depending on the particular fee involved. Requirements governing refund may include such matters as the reason for seeking a refund (for example, death, disability, compulsory military service), the number of days of instruction which have elapsed before application for refund is made (for example, requests for refund of student services fees, student body organization fees, and student body center fees must be made no later than 14 days following the commencement of instruction and requests for refund or extension course tuition fees must be made prior to the fourth meeting of the class), and the degree to which the campus has provided the services for which the fee has been charged. Details concerning the fees which may be refunded, the circumstances under which fees may be refunded, and the appropriate procedure to be followed in seeking a refund may be obtained from the University Controller.

Student Services Fee

If a student completely withdraws from the University, this fee may be partially refunded if written application for refund is submitted to the registrar within 14 days following the start of instruction each semester; $5 shall be retained to cover the cost of registration. If reduction of the student's enrollment causes a reduction to a lower fee category within the first 14 days, the difference less $5.00 may be refunded to the student.

If a student is unable to continue enrollment due to a university regulation, complete disability or because of compulsory military service, the entire fee may be refunded. Application for refund under such circumstances may be made any time before any academic credit is given for the courses for which the student is registered.

Nonresident (U.S. and Foreign) Tuition Fees

If a nonresident student withdraws from the University or drops in unit load, tuition fees may be refunded by application as follows:

Time limit for receipt of refund application	*Amount of refund*
(1) Before or during the first week of the semester	100%
(2) During the second week of the semester	90%
(3) During the third week of the semester	70%
(4) During the fourth week of the semester	50%
(5) During the fifth week of the semester	30%
(6) During the sixth week of the semester	20%
(7) Seventh week through the end of the semester	None

Parking Fee

Partial refund of the parking fee is made according to the following schedule and the return of all relevant parking documents issued by the University, including parking permit, stickers and decals. If any of these are affixed to the vehicle, their removal by a campus security officer or under the officer's

direction shall constitute appropriate return. Following is the schedule for refunds which will be paid:

Period	*Amount of refund*
1-30 days	75%
31-60 days	50%
61-90 days	25%
91-end of semester	None

Associated Students Fees and University Student Union Fees

The Associated Students fee and the University Union fee are refundable in full if a student withdraws from the University within 14 days after the start of instruction. After that date, no portion of these fees is refundable.

There is no refund of Associated Students fees or University Union fees because of a reduction in unit load from more than six units to six or less units.

Financial Assistance

The Financial Aid Center at CSULB provides both financial and advisory assistance to enable students to pursue a quality education in spite of increasing costs. It administers funds made available by the federal and state governments and by private sources that are awarded to students who demonstrate a need to cover educational expenses.

The preferential filing deadline is February 1, 1979 for receipt of the Financial Aid Form and Student Aid Application for California. All supporting documentation must be received by April 15, 1979. Applications for 1979-80 financial aid awards will be processed in the order of completion. Students are advised to complete files early since funds are limited.

Application

All prospective students who wish to apply for financial aid should first complete the postcard which is part of The California State University and Colleges Application and Information packet and then complete the Student Aid Application for California (SAAC) and the Financial Aid Form (FAF). New students may obtain the SAAC and the FAF from high school counselors or local college financial aid offices. Students currently enrolled at CSULB must also submit the SAAC and the FAF distributed each fall by the Financial Aid Center. The FAF and SAAC must be sent to the College Scholarship Service for processing. All students without a bachelor's degree must also apply for a Basic Educational Opportunity Grant (BEOG) by completing the FAF and requesting BEOG consideration.

The submission of various supportive documents is required of all financial aid applicants. They include the following: (1) verification of all taxable and nontaxable income reported on the FAF; (2) financial aid transfer records from all colleges previously attended; and (3) other clarifying information requested by the Financial Aid Center.

Upon receipt of all documentation, the applicant's file is evaluated to determine eligibility for financial aid. A student is automatically considered for all programs for which he/she qualifies at the University by submitting the FAF, SAAC, and appropriate supporting documents.

Financial Aid Eligibility

To determine eligibility the standard need analysis system of the College Scholarship Service is used. This system allows the office to analyze family financial strength and ability to contribute toward the cost of attending CSULB. Depending upon support status, the parental contribution, the applicant's (and spouse's) earnings from employment, savings, asset contribution, and other resources are then subtracted from the student's educational expenses to arrive at financial need.

Notification of Awards

All applicants who submit completed files by April 15, 1979 will be mailed their award notification by June 15, 1979. Applications completed after the deadline date will go on an alternate list and will only be considered if funds are available after fall registration. Upon the student's acceptance of the award, funds are reserved at the beginning of each academic term. The Business Office disburses financial aid in installments each semester according to the schedule accompanying award notification.

Citizenship and Unit Load Requirement

In addition to demonstration of financial aid eligibility, all undergraduate and graduate applicants must be in good standing and be enrolled at least half-time. Full-time undergraduate students must maintain a minimum academic course load of 12 semester units (complete 24 units per academic year). Undergraduate students attending half-time must carry a minimum of 6 units per semester (complete 12 units per academic year). For graduate students, the minimum full-time course load is 8 graduate level units; 4 units of graduate level course work constitutes half-time status. Failure to complete the required number of units may disqualify a student for renewal of financial aid.

To receive federal or state funds, a student must be a U.S. citizen or permanent resident of the United States.

Students Owing Educational Debts

Loans are not given to any student with a history of non-payment of debts. A student who defaults on any loan made by CSULB or under the federally insured or guaranteed loan program will be denied further aid. A student who owes a refund on grants previously received under the Basic Educational Opportunity Grant or Supplemental Educational Opportunity Grant Program will not receive funds from the University until corrective action is taken.

Appeal Procedure

Every student has the option of discussing his/her aid award with a financial aid counselor and appealing decisions. Petitions for appeal may be obtained from the intake advisors and are acted upon by the Associate Director and Director of Financial Aid. If an appeal is denied, the student may petition the Financial Aid Appeals Committee for final review and decision.

Campus Financial Aid Programs

1. *National Direct Student Loans (NDSL)*

   The NDSL is a federal program providing long-term, low interest loans to both graduate and undergraduate students. Students may borrow up to a maximum of $2,500 for the first two years; up to $5,000 for the bachelor's degree; and up to a cumulative total of $10,000 for undergraduate and graduate or professional study. The amount will depend upon availability of funds, determined eligibility, and the number of units carried. The interest rate is 3 per cent on the unpaid principal. Repayment

of loan principal and interest at a minimum of $30 per month begins nine months after graduation or withdrawal from the University and may extend over a 10-year period. Repayment is deferred as long as a student is enrolled at least half-time or serving in the U.S. Armed Forces, VISTA, or the Peace Corps. There are cancellation provisions for full-time teaching in designated low-income schools, teaching the handicapped, and for active duty in the Armed Services.

2. *Supplemental Educational Opportunity Grant (SEOG)*

   The SEOG is a federally sponsored program for undergraduate students with exceptional financial need. Awards range from $200 to $1,500 per academic year and cannot exceed $4,000 in total for all undergraduate years. Grants cannot exceed one-half of the total assistance provided the recipient. There are no work or repayment requirements for grants.

3. *College Work-Study (CWS)*

   The CWS program is a federally funded employment program to expand part-time job opportunities for students in financial need. Students awarded CWS are placed in jobs according to their skills, career and academic goals and must see the Financial Aid Center CWS Coordinator for job referral. Positions are available on campus or with public or private, non-profit organizations off campus. Students may work up to 20 hours per week while classes are in session or 40 hours per week during vacation periods.

4. *California State Educational Opportunity Program Grants (EOP)*

   EOP grants are provided by the State of California for a designated number of undergraduate students admitted to one of The California State University and Colleges under the Educational Opportunity Program. Eligibility is determined by the same need criteria as federal financial aid programs. Grants range from $200 to $1,000 for a maximum of ten semesters. Students also receive special academic counseling and tutorial assistance when needed. Further information may be obtained by contacting the EOP Office on campus.

5. *Law Enforcement Education Program Loans and Grants (LEEP)*

   In-service law enforcement officers who are pursuing an academic program related to criminal justice are eligible for grants covering the cost of fees and books. LEEP applicants on an academic leave from employment who are enrolled full-time are eligible for grants covering the cost of fees and books.

6. *Federal Nursing Student Loans and Scholarships (NSLP)*

   This program provides low-interest loans to undergraduate and graduate students demonstrating financial need who are enrolled in the Department of Nursing. A nursing student may be eligible to borrow up to a maximum of $2,500 for an academic year ($10,000 aggregate maximum). Repayment of the loan (plus 3 per cent interest per year) begins nine months after graduation or withdrawal from the nursing program. There is a maximum ten-year period in which to repay the loan. Under certain circumstances repayment of the loan may be deferred. For details contact the Financial Aid Center.

The Scholarship Program is designed to assist undergraduate and graduate students of exceptional financial need enrolled in the Department of Nursing. A nursing student may receive up to $2,000 per academic year depending upon computed need.

University Scholarships

The University scholarship committee and the Financial Aid Center administer a limited number of small scholarships. Most scholarships are awarded to students already in attendance at the University on the basis of academic excellence. Some scholarships are based on specific degree programs and are awarded directly by the department. Students may consult with their academic department or the Financial Aid Center regarding all scholarships.

Graduate Assistantships

Students interested in graduate assistantships should apply directly to the department of their academic major.

Other Student Aid Programs

The following programs are administered by other agencies and coordinated by the Financial Aid Center:

Cal Grant A

Cal Grant A, formerly the California State Scholarship, is awarded by the State of California to entering and continuing undergraduate students who are both U.S. citizens or permanent residents and California residents. Cal Grant A awards are based on academic achievement and financial need. Grants are for fees only ($98 per semester at CSULB) at any of the state colleges and universities. A new student applying to the University must indicate on the Student Aid Application for California (SAAC) that he/she is also applying for the Cal Grant A. Both new and continuing University students must complete a Program Supplement for Cal Grant A. Applications may be obtained from the Financial Aid Center, high school counselors, or by contacting the California Student Aid Commission, 1410 Fifth Street, Sacramento, California 95814.

Cal Grant B

Cal Grant B, formerly the College Opportunity Grant, is awarded by the State of California to entering undergraduate students who have not completed more than one semester of college. Applicants must be both U.S. citizens, or permanent residents, and California residents, and must demonstrate substantial financial need. Grants vary depending on educational costs; the maximum award for a CSUC student is $1,100 per academic year for the first year. In addition, fees are normally provided in the second, third, and fourth years. The grant is renewable for four years.

A new student applying to the University must indicate on the CSUC Student Aid Application for California (SAAC) that he/she is also applying for Cal Grant B and must complete a Program Supplement. Information regarding the grant may be obtained from the Financial Aid Center, high school counselors, or by contacting the California Student Aid Commission, 1410 Fifth Street, Sacramento, California 95814.

Graduate Fellowships

Fellowships are awarded to entering and continuing graduate students

planning to attend any California college or university accredited by the Western Association of Schools and Colleges and offering recognized graduate or professional degrees in academic areas approved by the California Student Aid Commission. Selection is based on academic achievement, financial need, critical manpower shortages, and scores from the Graduate Record Examinations (GRE), Law (LSAT), Medical College SAT (MCSAT), or other appropriate entrance examination for graduate school. Graduate fellowship information and applications are available through the Graduate Studies and Research Center on campus.

Basic Educational Opportunity Grant Program (BEOG)

The Basic Educational Opportunity Grant Program is a federal aid program designed to provide financial assistance to undergraduate students who demonstrate financial need under the guidelines of the program. Grants range from $200 to $1,600 per academic year. Once a student is determined eligible to the BEOG, the amount of the award is based on the cost of education at the school attended and enrollment on a half-time, three-quarter-time, or full-time basis. Eligibility is limited to U.S. citizens or permanent residents.

After an applicant has completed the FAF and forwarded it to the College Scholarship Service, the applicant will be sent a Student Eligibility Report (SER). The Student Eligibility Report must be submitted to the Financial Aid Center to be processed.

Federally Insured Student Loans (FISL)

The Federally Insured Student Loan Program enables eligible students to obtain loans through banks, credit unions, and other lending institutions outside of the University. During the time the student is enrolled at least half-time, the federal government pays the interest on cumulative FISL's provided the family's adjusted gross income is less than $25,000.

Federal regulations allow any student to apply for the Federally Insured Student Loan providing the student: (1) is enrolled in and in good standing or has been accepted for enrollment at an eligible school; (2) is enrolled as at least a half-time student; and (3) is a citizen of the United States or is in the United States for other than a temporary purpose. Loan maximums are $2,500 per year for undergraduate students ($7,500 total for all loans), and $5,000 per year for graduate students ($15,000 total for all loans). Local lender policy is available from the Financial Aid Center.

See the Financial Aid Center for information on repayment.

Alan Pattee Scholarships

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 68121. Students qualifying for these benefits are known as Alan Pattee scholars. For further information contact the Admissions and Records Office.

Understanding National Direct Student Loans

The National Direct Student Loan Program (NDSL) gives students the opportunity to borrow money against future income to attend the University. No interest is charged nor is repayment required while the borrower is enrolled in at least one-half of the normal academic load. Interest of three per cent a year

begins nine months after the borrower ceases to be enrolled or is enrolled less than half-time, and repayment must be completed within a 10-year period.

CSULB receives NDSL funds from the federal government. From the collection of these loans a "revolving fund" is established which provides for the needs of future generations of students. Loans must be repaid. The promissory note which is signed upon receipt of NDSL money is a legally binding contract in which the student promises to pay the debt. CSULB must follow due procedures in collecting this loan, even if it means using a collection agency or going through legal proceedings to recover the loan. This is an ethical or moral responsibility of students to repay loans in order to provide aid for the next person to continue his or her education at CSULB.

For students who have not established credit, the NDSL provides the opportunity to establish a good credit history through prompt loan repayments.

Other Types of Financial Assistance

Emergency Loans

Emergency loans are available from the Financial Aid Center for a maximum of $150 on a 30-90 day repayment basis. The purpose of the short-term loan is to assist students with a temporary emergency situation. These loans take three days for processing and carry no interest charges.

Bureau of Indian Affairs (BIA) Grants

Students who are at least one-fourth American Indian, Eskimo, or Aleut may apply for a BIA grant. The amount of the grant depends upon financial need and availability of funds. Students must complete an application for financial aid and then contact a financial aid counselor to complete a separate form.

Social Security Benefits

If parents receive Social Security retirement or disability benefits, or if they were eligible for these benefits but are deceased, the children may apply for monthly educational benefits. Contact the local Social Security Office for applications and information.

Student Part-Time Employment

Listings are available and assistance is offered in the Financial Aid Center to students interested in part-time employment.

Several aid programs available to students at the University which are not handled by the Financial Aid Center include the following:

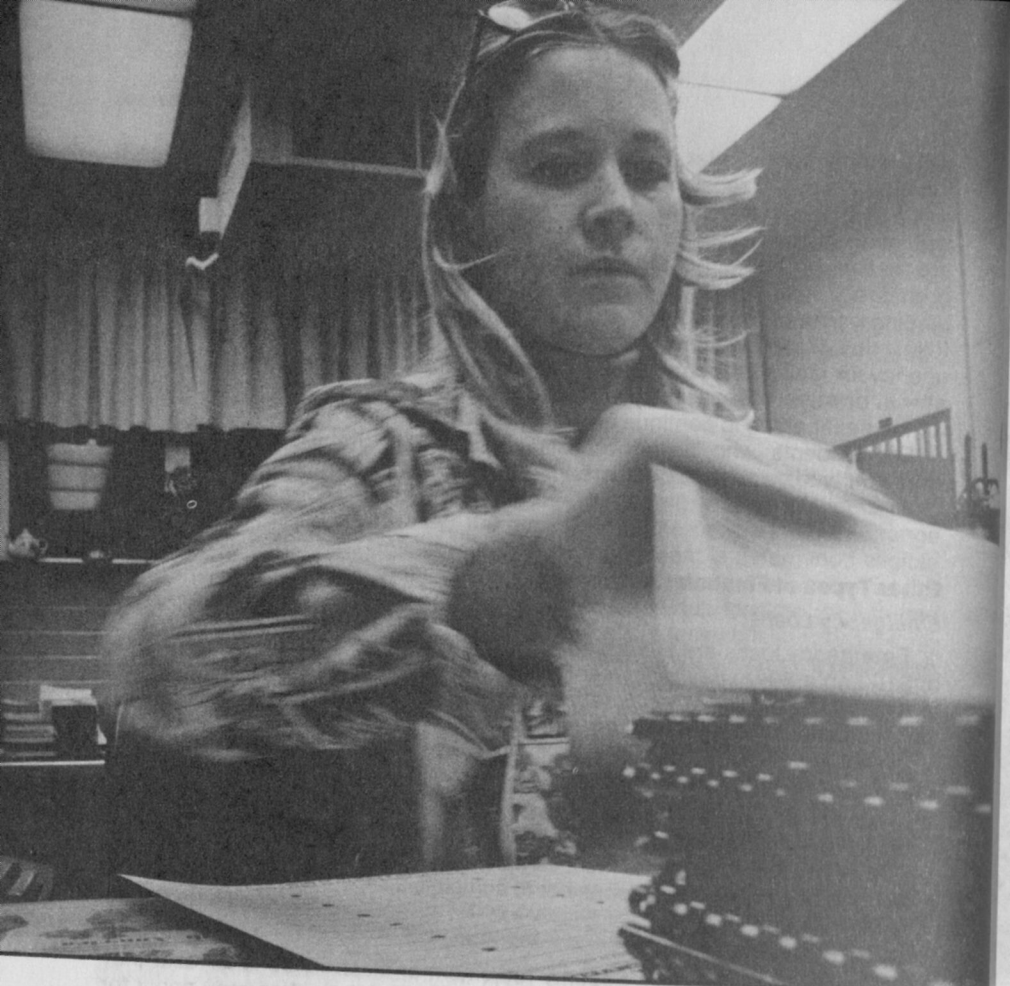
Veteran's Benefits

Veterans or dependents of veterans may be eligible for benefits under the following programs: Veteran's Education and Employment Assistance Act of 1976 (PL 94-502), Disabled Veteran's (PL 87-815), Wives or Widows of Disabled or Deceased Veterans (PL 631), War Orphans (PL 634), Children of Disabled Veterans (PL 88-361), Dependents of Deceased or Disabled Veterans (California State Educational Assistance).

Any student interested in veteran's benefits should contact the Veterans' Affairs Office, Student Services/Administration Building, Room 267.

Vocational Rehabilitation Services

Students who have a physical, emotional, or other disability which handicaps them vocationally may be eligible for the services of the State Department of



Rehabilitation. These services include vocational counseling and guidance training (with payment of costs such as books, fees, tuition, etc.) and job placement. Under certain circumstances students may also qualify for help with medical needs, living expenses, and transportation.

Appointments may be made by contacting the State Department of Rehabilitation in Long Beach or the campus Handicapped Student Services Center.

Aid to Families with Dependent Children (AFDC)

For a single parent without employment or other sources of support, there is the AFDC program administered by the County Department of Public Social Services (DPSS).

Miscellaneous

Some scholarships and fellowships are not administered by the University. Interested applicants should consult the Scholarship Information Section of the University Library or any public library.

Estimated Expenses for Books and Supplies

The average expense for textbooks and other prescribed items for class use approximates $60-$75 per semester. The student should be prepared to meet these expenses at the time of registration.

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

The 19 campuses of The California State University and Colleges are financed primarily through funding provided by the taxpayers of California. For the 1977-78 year, the total cost of operation is $825 million, which provides continuing support for 236,370 full-time equivalent (FTE*) students. This results in an average cost per FTE student of $3,491 per year. Of this amount, the average student pays $297. Included in this average student payment is the amount paid by nonresident students. The remaining $3,194 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:

1977-78 Total Costs of Campus Operation (Including Building Amortization)

Enrollment: 236,370 FTE

Source	Amount	Average Cost Per Student (FTE)*	Percentage
State Appropriation (Support)	$671,764,609	$2,842	81.4
State Funding (Capital Outlay)**	36,360,246	154	4.4
Student Charges	70,247,936	297***	8.5
Federal (Financial Aids)	46,732,894	198	5.7
Total	$825,105,685	$3,491	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 wide range of facilities and equipment on the 19 campuses is currently valued at approximately $1.4 billion, excluding the cost of land. Amortized over a 40-year period, they are valued at $154 per FTE student.

*** The average costs paid by a student include the student services 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 $297 depending on whether they are part-time, full-time, resident or nonresident students.

Student Affairs Division

Vice President for Student Affairs

The Vice President for Student Affairs is responsible for the management, supervision and coordination of the Student Affairs Division.

The Student Affairs Division is particularly dedicated to assisting students in times of difficulty and stress, whether the problem is educational, physical or emotional. The division attempts to provide programs and activities which will enhance the students' social awareness and growth as well as assist in achieving academic and career success.

The division also deals with problems and questions regarding student rights and responsibilities.

The major components of the division are as follows: Vice President for Student Affairs; Career Planning and Placement; Counseling and Human Development Services; Experiential Learning Center, including EPIC and Cooperative Education; Health Services; Housing; International Education Center; Office of Student Affairs; Sports, Athletics and Recreation; Student Activities; Student Development Programs; Testing and University Student Union. In addition, there are specialized programs designed to further serve and assist certain groups of students. These include a Veterans' Affairs Office, the Handicapped Students Services, an educational program associated with the State Department of Correction, tutorial programs in the community, a Fair Housing program, Study Abroad, a Learning Assistance Center, the Office for Adult Reentry, a year-round orientation program, a leadership training program and several outreach counseling programs.

Office of Student Affairs (SS/AD Bldg., Room 211)

The Office of Student Affairs, under the direction of the Vice President for Student Affairs, is responsible for the overall supervision and administration of the University Student Union, the Student Activities department, Handicapped Student Services, Judicial Affairs, Student Government, the Isabel Patterson Child Development Center, the University Orientation Program, and Project Chance.

The Office of Student Affairs provides assistance to students with crises, general information, emergencies, accidents, referrals and grievances. The Dean for Student Affairs feels that co-curricular involvement plays a significant part in student development and in the student's satisfaction with the total University experience, and welcomes opportunities for student conferences as they work to meet the needs and interests of the students.

The Office of Student Affairs publishes annually the "Student Handbook," the "Campus Regulations," the Judicial Affairs Handbook, literature on Project Chance and Project Share. Copies of these publications may be obtained in the Office of Student Affairs and the University Student Union. The office is also responsible for the interpretation and enforcement of the campus regulations for students. Phone: 498-4181.

Career Planning and Placement Center

The Career Planning and Placement Center facilitates employment processes for students, alumni and job recruiters, and is a clearinghouse for information vital to career planning and job procurement.

All services of the Career Planning and Placement Center and of the recruiters coming to the campus are made available to the students of California

State University, Long Beach without any discrimination on the basis of race, color, religion, national origin, age, handicap, veterans status or sex.

Help is given to those in the process of delineating career goals. This is especially important for lower division students as they formulate educational and employment strategies. Various job fairs, discussion groups and speakers programs are all designed to encourage meaningful career exploration. The Career Resources Center provides a wide selection of materials relating to the world of work. Audio-video presentations are also in the center and available for student use.

More than 500 recruiters conduct interviews with applicants on campus each year. Counselors assist students in preparing for these interviews with job market information, resume preparation, interview techniques, letter writing and other application procedures. Orientation meetings for those beginning the job recruitment process are conducted regularly. Fall graduates should register for this program the first week of the fall semester in which they plan to graduate. Spring and summer session graduates should register at the end of the fall semester preceding the semester they graduate.

Counselors with relevant academic background and practical work experience assist students who seek to find the field which will provide them with maximum satisfaction. The counselors do not literally "place" graduates in jobs; rather, they attempt to create a situation wherein the student is offered the opportunity to explore many possible situations from which he or she may ultimately choose, and the counselors give assistance in the decision making process.

Teacher candidates receive assistance through the School of Education. Candidates may maintain files of references which will be duplicated and sent in support of educational job applications.

The campus may furnish, upon request, information concerning the subsequent employment of students who graduate from programs or courses of study which have the purpose of preparing students for a particular career field. This information includes data concerning average starting salary and the percentage of previously enrolled students who obtained employment. The information provided may include data collected from either graduates of the campus or graduates of all campuses in The California State University and Colleges. Interested prospective students may request copies of the published information from Andrew Heck, Director of School Relations, 1250 Bellflower Blvd., Long Beach, Ca. 90840, 498-5358 or H. Edward Babbush, Associate Dean and Director of Career Planning and Placement, 498-5551.

Counseling and Human Development Services

Counseling and Psychological Services

The Counseling Center offers three types of services to the University community: counseling, psychological assistance and consultation. The purpose of these services is to insure that the university experience will be of the most benefit to students who are enrolled at CSULB.

These three services are offered in a variety of ways by a staff of professionals, trained to help students at the appropriate level from a question of academic procedure to the more serious problems which occur in crisis intervention. Consulting psychiatric services are available in the Center and a close relationship is maintained with the Student Health Services.

The staff of the Counseling Center has individual interests and competencies which permit services to be offered to special groups of students. These include

veterans, adults returning to campus, handicapped students and minority students. The staff includes counselors who are especially concerned with the problems which are relevant to American Indian, Chicano and Black students.

Other specialized services offered by the staff include individual and group personal counseling, career counseling and testing, learning assistance, marriage counseling, and other services outlined in a brochure which can be obtained from the Counseling Center, in the Student Services/Administration Building, Room 226—Open 8 a.m. to 7 p.m., (Friday 8 a.m. to 5 p.m.). Phone: 498-4001.

Learning Assistance Center

The Center offers individual and personal programs in: reading, writing, computation and typing; preparation for GED, ACT and GRE tests; special collections of materials such as content glossaries, handbooks, outlines, programmed instruction, audio and audio-visual materials for self-learning and individualized review; plus, diagnostic and prescriptive materials for self-help in study management, textbook study-reading, listening/note making, exam techniques, memory and concentration. Phone: 498-5350.

Explorations in Communication

This outreach program offers members of the University community an opportunity to meet in small groups to discuss campus issues and concerns of personal development. Phone: 498-4651.

Veterans Affairs Office

The Veterans Affairs Office serves as a clearinghouse of services for the CSULB student veteran. Here a student may initiate a request for veterans' benefits, receive information regarding these benefits, and receive assistance with problems involving the Veterans Administration. Learning assistance and tutoring are also offered. Short term loans are available to veterans in temporary financial need. The office mails a newsletter to veterans to keep them up to date on news of importance to them, including information regarding legislation affecting their benefits.

All students receiving GI Bill benefits must register with the Veterans Affairs Office each semester in order to continue receiving benefits. The office is in the Student Services/Administration Building room 267, and is open from 8 a.m. to 7 p.m. weekdays. Phone: 498-5436.

Adult Reentry Counseling Office

Adults who are considering entering the University are encouraged to utilize the services of the Adult Reentry Counseling Office in the Counseling Center. Opportunity is given to explore various options concerning majors, graduate work, or specialized programs. This service is available to those who have not filed application for admission to the University, as well as those who are in the process of applying. In addition, adult students currently enrolled are urged to make use of the counseling services. Both male and female counselors are available.

Career/self-exploration groups are offered which promote self-understanding as related to career decision making for students planning a career after years at home or those seeking a new career.

Special assistance is offered to women who are beginning their college work, transferring from a community college, reentering a university after an absence of several years or returning for graduate work. Personalized services include initial exploration of academic background, life experiences, future goals and

further education prior to referral to academic advisers. Support and encouragement to help in home-college adjustment is offered through groups and individual contacts. Referral to campus resources is done on a person-to-person basis. Contact the Office for Women Returning to Campus, a service of Adult Reentry Counseling. Telephone: 498-4001.

Systems Consultation

Systems Consultation is a service aimed at organizational development, team building, and conflict resolution among staff, faculty and administrative groups. Phone: 498-4001.

Community Counseling Services

Services are provided to non-students from the community in the evening and on weekends by the Counseling Center staff (for a fee). Phone: 498-4001.

Career and Personal Explorations

This is a course designed for, but not restricted to, entering and undeclared students which includes training in life problem-solving and self-management skills; intensive exploration of one's own values, interests and abilities; an intensive career information search; and optional modules. Instruction is by self-paced materials, lectures, small group discussions, interviews and inputs from various campus departments. Phone: 498-4001.

Dropout Intervention

The dropout intervention service includes contact with students on academic probation and personal exit interviews for those who leave the University before graduating to determine why students leave as well as to ascertain ways in which the University can meet student needs. Phone: 498-4001.

Handicapped Student Services

The Handicapped Student Services Office provides services and programs for use by physically handicapped students attending the University or visiting here, including priority registration, Department of Rehabilitation fee authorizations, classroom changes to accessible locations, special parking, counseling and advisement, career planning and employment opportunities, reader and attendant lists, emergency wheelchair loan and minor repair, referral to other offices and agencies and extra-curricular activities.

The publications "Campus Guide" and "I AM!" are available from the office to acquaint the handicapped with the University and provide information of interest to handicapped students. Special tours of University buildings are available to handicapped persons on appointment by contacting the office at (213) 498-5401. Temporarily handicapped students are eligible for assistance through any services or programs provided by Handicapped Student Services.

Health Services

The Student Health Service, located on State University Drive near the Residence Halls (phone 498-4771), provides outpatient emergency care and first aid for acute illness or injury. The medical service, provided for all enrolled students, is without charge since it is covered by the Student Services Fee paid at registration. The Health Service is open from 8:00 a.m. to 7:00 p.m. Monday through Thursday and from 8:00 a.m. to 5:00 p.m. on Friday. Evening only students are given priority Monday through Thursday from 4:00 to 7:00 p.m.

During summer sessions, periods between semesters, and on weekdays when classes are not in session, the Student Health Service is open from 8:00 a.m. to 5:00 p.m. No off-campus calls are made at anytime. Medical emergencies arising when the Health Service is closed will be directed to the Department of Public Safety (phone 498-4101).

In addition to emergency ambulatory care, medical services provided by the Student Health Service include health and psychiatric counseling, immunizations, laboratory tests, x-rays, and physical therapy under the direction of the medical staff. Specialty consultant services include gynecology, dermatology, psychiatry, and minor surgery. Provision is also made for outside referrals in other medical specialties.

The Health Service Pharmacy provides many medications free of charge. Prescriptions for long-term or costly medication must be filled in outside pharmacies.

Physical examinations are no longer required for enrollment. However, each new student must complete a Health History to be kept on file at the Student Health Service. Students enrolling in physical education assume the responsibility for satisfactory health status appropriate for class activity.

The Student Health Service does not issue excuses from class for injury or illness except for physical education activity classes. The decision to excuse a student from class is made by the instructor. For information concerning medical withdrawals, see the General Regulations and Procedures section of this *Bulletin*.

Except on a first aid basis, University medical services are not provided for major, chronic, complicated or severe illness or injury. These are the responsibility of the individual student and his or her family. It is strongly recommended that students obtain supplementary group health, accident and hospital insurance. Brochures and applications are available at the Student Health Service. This insurance must be purchased during or shortly following registration.

Housing

University Residence Halls

The campus residence hall complex consists of eight halls with a maximum capacity of 868 students. Double rooms and a very limited number of single rooms are available. The room-and-board rate for the academic year is approximately $1,575-$1,800, depending on the type of accommodation.

Residence hall application forms and additional information may be obtained from the Director of Housing. Applications for the academic year are accepted after January 1 of the same year, and applications for spring only are accepted after September 1 of the preceding year.

University housing rules give priority to students who resided in the halls during the preceding semester, according to the date application was received, residents of California, students under 18 years of age, students living outside a 20-mile commuting zone and entering freshmen.

Off-Campus Listing Service

A card file of rental listings is maintained in the Housing Office. These listings include rooms, rooms with board, rentals to share, furnished and unfurnished apartments and houses and a limited number of work-opportunity listings for students who are interested in working for their room and board or room rent. It is suggested that prospective students visit Long Beach to make such living arrangements since information about these listings cannot be mailed.

Fraternity and Sorority Housing

Most of the fraternities and sororities own or lease homes near the campus and provide lodging and meals for their members and pledges. Students interested in affiliating with a sorority or fraternity should contact either the Panhellenic Office (for sororities) or the Interfraternity Council (for fraternities), Office of Student-Activities, University Union.

Sports, Athletics and Recreation

The University sponsors a complete athletic program which is considered an important aspect of student life. For detailed information see the Physical Education section of this *Bulletin*.

International Educational Center

The University attracts many students from other countries because of its quality programs and also encourages its American students to take advantage of the many study abroad programs. The International Education Center is the primary office for contact and assistance for all study abroad and for foreign students, including new immigrant and permanent resident students who are nationals of other countries. At present there are over 1,900 students from some 90 foreign countries attending the University. The center provides the following essential services for these groups:

Counseling and Advising

A staff of specially trained counselors is available to assist U.S. students interested in study abroad (see section on international programs in this *Bulletin*) and also to aid foreign students in becoming accustomed to working in a new educational environment with different demands and requirements and in adjusting to living in a cultural environment with new relationships, living style and pace of life. Students consult with counselors on a wide variety of educational problems: selection or change of field of study, unfamiliar examination techniques, study skills, planning for vocation or advanced graduate study, appropriate academic load and anxieties related to academic pressures. Close contact is maintained with students' faculty advisers in academic departments both at the undergraduate and graduate levels. Students' personal problems also are often considered: finances and employment (on which there are legal restrictions); relations with other students, professors and other persons; problems of an ethical, cultural or moral nature; and anxieties encountered in growth toward maturity in personal and interpersonal development. Problems of health, legal difficulties and other unusual matters are referred to sources of specialized assistance in and outside the University.

Students from abroad should review courses listed under International Student Programs (see Special Programs section). *This is especially important for learning American English and meeting certain General Education requirements.*

Community Relations

The staff and a corps of volunteers from the International Community Council of Greater Long Beach with the International Student Committee of the Associated Students and representatives of national groups to conduct a continuing orientation program for new foreign students. Community assistance is given to find suitable living accommodations, often with families. Programs of

an educational, social, cultural and recreational nature are sponsored to assist in cross-cultural understanding.

Administrative Services

The center is the source for applications and information on study abroad experiences. Pamphlets and catalogs on travel opportunities and advice on travel are available. The center also assists students and foreign scholars in complying with regulations of the U.S. Immigration and Naturalization Service. It provides applications for extension of stay, changes of student status, and certificates to permit foreign students to return to the U.S. after leaving the country; and requests to bring dependents to this country. It also issues letters of student standing in the University for consulates and embassies and requests for release of foreign currencies to support students in any critical emergencies. The center coordinates departmental programs and offers classes designed specifically for foreign students.

Judicial Affairs *(Student Services/Administration Building, Room 211)*

The Judicial Affairs Office provides assistance with the interpretation and enforcement of campus regulations. Complete copies of the CSULB booklet entitled *Policies, Information and Regulations*, including a listing of infractions which may result in student disciplinary action under Title 5, Section 41301, of the California Administrative Code, "Probation, Suspension and Expulsion of Students," are available in this office; also available are copies of Executive Order 148, "Student Disciplinary Procedures for the California State University and Colleges." General assistance and aid in directing individuals to the proper procedures, departments and personnel may be obtained in this office.

Alleged violations are investigated primarily through informal office conferences with the involved students. The conferences which are held as a result of impending disciplinary action are: (1) to clarify the referral, the charges or the circumstances involved; (2) to prevent the incidence of, or further occurrences of violations; and (3) to educate as a preventive experience, and to indicate the possible consequences as a result of committing a violation. Discussion is centered on the cause/effect relationship of various courses of action and, when possible, alternate paths or solutions are explored.

Student Activities

The Student Activities Department, located on the plaza level of the University Student Union, offers program advice to campus clubs and organizations and to the Associated Students.

The five professional staff members work with student departmental associations, the year-round orientation program, cultural events, service projects, concerts, the fall festival and the spring 49'er festival. Activities coordinators assist all of the campus organizations with leadership, program and scheduling matters related to their groups. Organization constitutions and officer registration cards are maintained and mail distributed to groups through the office. There are over 200 recognized campus organizations in the following categories: recognition and honor societies, professional and academic organizations, special interest groups, political and social action organizations, service clubs, ethnic cultural groups, religious organizations, social fraternities and sororities (and auxiliaries to fraternities), coordinating councils and departmental associations.

The Activities staff also advises the various committees and commissions of the Associated Students. The Department is interested in developing programs

which meet the co-curricular needs of all students. Students are encouraged to bring suggestions and questions to the staff.

Experiential Learning Center

The Experiential Learning Center serves as the link between the university community (faculty and students) and those public and private agencies interested in the Educational Participation In Communities Program or the Cooperative Education Program. These programs have been designed to offer currently enrolled students a wide selection of volunteer or paid supervised work experiences.

The interaction between the academic environment and work environment can help students more easily assess their capabilities, clarify values, explore career goals, develop on-the-job skills, and make more meaningful academic choices prior to completing their education.

The Educational Participation In Communities and Cooperative Education Programs are housed in the Experiential Learning Center which is located on the Mall Level of the University Union, Room 110. Phone: 498-5395.

Educational Participation In Communities (EPIC)

The Educational Participation In Communities (EPIC) Program, provides volunteer opportunities for students who wish to participate in career related field experiences which are complementary to their classroom study. Students may volunteer from three to six hours per week for at least one semester in the following areas: Medical, Legal, Probation, Recreation, Government and Education.

Field experience classes are available. For course description see Special Programs Section of this *Bulletin*.

Cooperative Education (Co-op)

The Cooperative Education Program (Co-op) offers students practical on-the-job experience in vocational, educational, or cultural activities with successful professionals in the field. Students may choose from two Cooperative Education plans, the parallel plan for part-time paid work experience or the alternate plan for full-time paid work experience.

Students who qualify for the parallel plan will be placed in career related jobs and will be employed for 20 hours per week for at least one full semester.

The alternate plan requires that qualified students take an educational leave of absence for one semester. During this leave of absence, students will be employed for 40 hours per week in their career field. Upon completion of the one semester field experience, the students will return to college full-time.

Students interested in the parallel or alternate Cooperative Education plans must apply one semester in advance of their actual placement in the field.

Fraternities and Sororities

Eleven national Greek social fraternities and seven national sororities have chapters on campus. The fraternities are Acacia, Delta Chi, Kappa Alpha Psi, Kappa Sigma, Omega Psi Phi, Phi Beta Sigma, Phi Kappa Tau, Sigma Alpha Epsilon, Sigma Chi, Sigma Pi, Theta Chi. The sororities are Alpha Kappa Alpha, Alpha Omicron Pi, Alpha Phi, Delta Delta Delta, Delta Gamma, Delta Zeta and Gamma Phi Beta.

Most of the fraternities and sororities own or lease homes near the campus and provide lodging and meals for their members and pledges. Students interested in affiliating with a sorority or fraternity should contact either the Panhellenic Office (for sororities) or the Interfraternity Council (for fraternities), Office of Student Activities, University Student Union.

University Radio Station

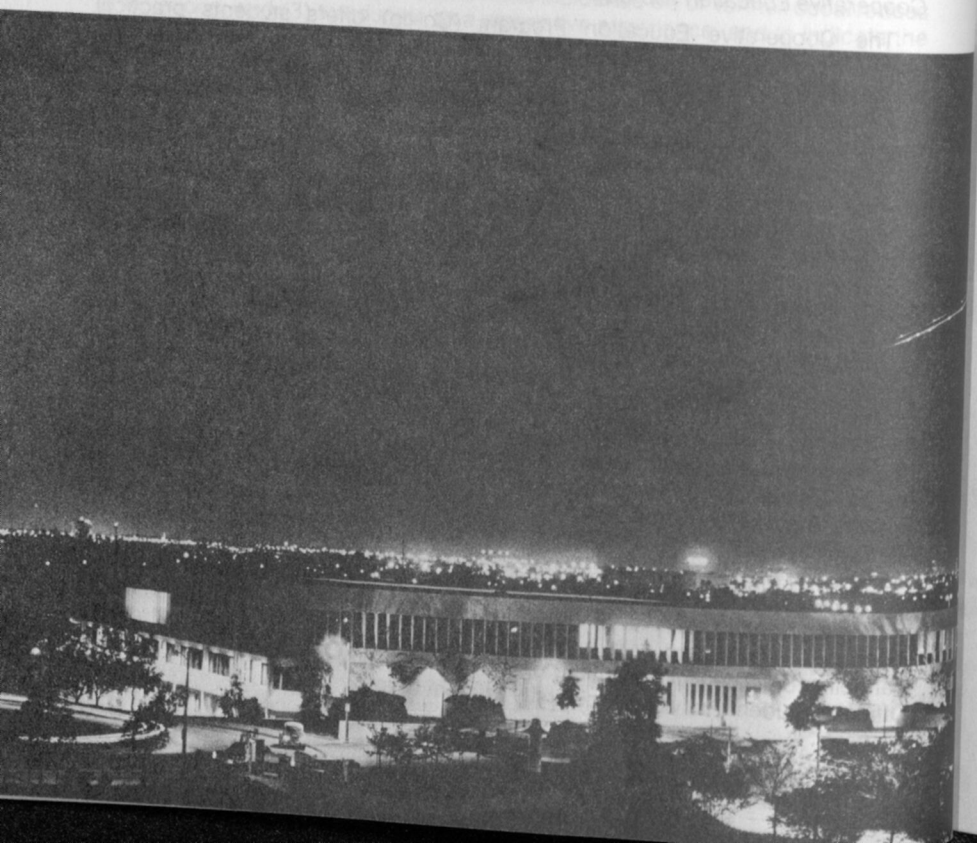
Radio station KSUL (90.1 on the FM dial) provides students the opportunity to gain practical experience in the broadcasting field. CSULB students are primarily responsible for running the station; however, faculty, staff and members of the Long Beach community also participate. KSUL is located in Faculty Office Building 1.

Student Development Programs

The Office of Student Development Programs (SDP) is directed toward assisting in the admission and retention of low income and minority students who might not otherwise be enrolled in the University due to inadequate prior educational opportunities, and/or inadequate financial support. Programs currently under SDP include the Educational Opportunity Program and the federally-sponsored Student Special Services and Upward Bound programs.

Educational Opportunity Program

The Educational Opportunity Program (EOP) identifies potential candidates, guides them through the admissions and financial aid process, and provides academic and personal support. EOP provides orientation, academic and personal advisement, and study skills instruction to all students admitted into the program to insure the maximum opportunity for success in the University.



Student Special Services Program

The Student Special Services Program provides tutorial assistance and small group instruction to students admitted through EOP. First year academic support is provided in the areas of Bilingual Communications, Language Skills, Mathematics-Sciences and Social Sciences. In addition, staff assist in the testing and orientation of incoming students and sponsor a summer instructional program in basic academic skills.

Upward Bound Program

The Upward Bound Program is a pre-college preparatory program designed to identify and assist low income and minority high school students who demonstrate a potential to succeed in college but suffer from inadequate secondary school preparation. Summer and weekend instructional programs are held in basic subject areas with tutorial and counseling assistance given to each student. The program also facilitates the admission of these students into college through advisement and orientation. Presently the Upward Bound Program is working with five local high schools: Artesia, Centennial, Excelsior, Compton, and Long Beach Polytechnic.

Testing

The Testing Office provides individual testing services to help students with educational, personal or vocational problems. Students seeking help should first contact the Counseling Center for individual interviews so that appropriate tests may be assigned.

All entering freshmen and sophomores are required to complete the American College Testing Program (ACT) or the College Entrance Examination Board (CEEB) Scholastic Aptitude Test. Information and applications can be obtained from high school counselors or the Testing Office at California State University, Long Beach.

All first-time freshmen and all new and returning lower division students (those with fewer than 56 transferable semester units) who will graduate from the CSUC under the degree requirements of the 1977-78 and subsequent *Bulletins* are required to take the English Placement Test (EPT), with the exceptions of students who present:

1. Satisfactory scores on the CSUC English Equivalency Examination;
2. Scores of 3, 4 or 5 on the Advance Placement Program English Examination.

Students must take the test at the first test administration available after admission. EPT registration does not require a fee.

Also available is lower division credit by examination in English, science and mathematics.

The Chemistry Placement Test is required of all students planning to enroll in Chemistry 111A or Chemistry 300.

All prospective master's degree candidates should check with their advisers or the Testing Office in their first semester of residence regarding specific testing requirements.

Students who miss the regularly scheduled examinations should notify the Testing Office immediately.

The University reserves the right to administer additional tests to all students whenever it is deemed appropriate for the improvement of instruction.

Admission to the University

Requirements for admission to California State University, Long Beach are in accordance with Title 5, Chapter I, Subchapter 3, of the *California Administrative Code*. Prospective applicants who are unsure of their status under these requirements are 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.

Applicants are required to include their social security number in designated places on applications for admission pursuant to the authority contained in Title 5, *California Administrative Code*, Section 41201. The social security number will be used as a means of identifying records pertaining to the student as well as identifying the student for purposes of financial aid eligibility and disbursement and the repayment of financial aid and other debts payable to the institution.

School Relations Office

The School Relations Office provides information about the University and its academic programs to educators, counselors and prospective students. It serves as the contact point for the public to assure prompt responses to inquiries received in this regard. Staff is available to visit high schools and community colleges with information and materials on instructional offerings and services. Educators, counselors and students wishing to visit the campus should contact this office at 498-5358 for appointments.

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 nonrefundable 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 *applicants should list as alternate campuses only those campuses of The California State University and Colleges that they will attend if their first choice campus cannot accommodate them.* 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.*

Locally and Systemwide Impacted Programs

Most undergraduate applications are accepted for consideration at the first choice campus in the first choice major. However, quotas have become necessary in a few majors at some campuses where more applications are received during the first month of the filing period than can be accommodated. In those programs, only applications received during the first month of any filing period will be accepted for consideration. *Applicants for impacted programs must apply during the first month of any filing period.* Supplementary screening criteria are used to determine which applications will be allocated space in impacted programs. Campuses may consider hardship appeals from applicants.

Locally Impacted Programs

Supplementary screening criteria are used to determine which applications will be allocated space at the first choice campus and which will be considered at the same campus in an alternate major or redirected to an alternate campus where the program is not impacted. In categories for first-time freshmen and lower division transfers with fewer than 12 transferable semester units, at least one half of the available space will be reserved for the most highly qualified applicants based on previous academic performance as measured by the Eligibility Index. High school grade point averages based on all grades earned after the 9th grade (except those in P.E. and military science) as reported by applicants on the application, and test scores received by the campus no later than the end of the first month of the filing period* will be used to compute the Eligibility Index. Remaining space may be allocated on the basis of self-declared GPA, test scores or other criteria. Campuses using other criteria will advise affected applicants of those criteria. Space in categories for transfer students with 12 or more transferable semester units may be allocated on the basis of self-declared GPA or other criteria. Campuses using other criteria will advise affected applicants of those criteria.

Systemwide Impacted Programs

These are programs where applications received throughout the system exceed the total available spaces in the system. Unlike unaccommodated applicants to locally impacted programs who may be redirected to another campus in the same major, unaccommodated applicants to systemwide impacted programs *may not be redirected in the same major* but may choose an alternate major either at the first choice campus or another campus. Details about the supplementary admission criteria to be used by campuses will be sent all applicants under consideration.

Post-Baccalaureate Application Procedures

All applicants for any type of post-baccalaureate status (e.g., master's degree applicants, those seeking credentials and those interested in taking courses for personal or professional growth) must file a complete application within the appropriate filing period. *Second baccalaureate degree candidates 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 nonrefundable 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.

*Applicants to impacted programs or campuses should make every effort to take the SAT or ACT at the earliest date. However, the inability of Fall 1978 applicants to supply test scores by December 1, 1977, will not jeopardize their admission priority.

Application Filing Periods

Terms in 1978-79	First Accepted	Filing Period Duration	Student Notification Begins
Summer Qtr. 1978	Feb. 1, 1978	Each campus accepts applications until capacities are reached. Most campuses accept applications up to a month prior to the opening day of the term. Some campuses will close individual programs as they reach capacity.	March 1978
Fall Sem. or Qtr. 1978	Nov. 1, 1977		Dec. 1977
Winter Qtr. 1979	June 1, 1978		July 1978
Spring Sem. or Qtr. 1979	Aug. 1, 1978		Sept. 1978

Space Reservation Notices

Most applicants will receive some form of space reservation notice from their first choice campus within two months of filing the application. A notice that space has been reserved is also a request for records necessary to make the final admission decision. It is an assurance of admission *only* if evaluation of the applicant's previous academic record indicates that admission requirements have been met. Such a notice is not transferable to another term or to another campus.

Hardship Petitions

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

Undergraduate Admission Requirements

First-time freshman 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 and the equation by which the index is computed, is reproduced on p. 68. 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
Box 592
Princeton, New Jersey 08540

First-Time Freshman Applicants (California high school graduates and residents)

Applicants who are graduates of a California high school or legal residents for tuition purposes must have an eligibility index which places them among the upper one-third of California high school graduates. The minimum index is 741 (ACT) or 3072 (SAT). The following table illustrates grade point averages and test scores needed to qualify for admission.

Excerpts from Admissions Eligibility Table for California High School Graduates

GPA	2.00*	2.20	2.40	2.60	2.80	3.00	3.20**
ACT Score	35	31	27	23	19	15	11
SAT Score	1472	1312	1142	992	832	672	512

* Below 2.00 not eligible.
** Above 3.20 eligible with any score.

First-Time Freshman Applicants (Non-resident)

The admissions requirements for non-resident applicants are higher than those for California residents. Applicants who are neither residents for tuition purposes nor graduates of a California high school must have an eligibility index which places them in the upper one-sixth of California high school graduates. The minimum index for such students is 826 (ACT) or 3402 (SAT).

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 or her preparation and ability are such that in the judgment of the appropriate campus authority, the probability of 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)

Transfer admission eligibility is based on *transferable* college units attempted, rather than on *all* college units attempted. California Community College transfers should consult their counselors for information on transferability of courses. Applicants in good standing at the last college attended may be admitted as undergraduate transfers if they meet either of the following requirements:

1. Eligible for admission in freshmen standing (see First-Time Freshmen requirements) with a GPA of C (2.0 on a scale where A = 4.0) or better in all transferable college units attempted.
2. Completed at least 56 transferable semester units or 84 transferable quarter units with a GPA of C (2.0 on a scale where A = 4.0) or better if a California resident. Non-residents must have a GPA of 2.4 or better.

International (foreign) Students

Special application forms are required of foreign student applicants. Such forms and directions for their use may be obtained from the Admissions Office. Foreign students are required to submit with their application evidence of competence in the English language as indicated by a TOEFL score, a medical certificate of health, and evidence of financial resources adequate to provide for all expenses (approximately $435 United States currency per month) during the period that they expect to be registered as a student in the University.

All foreign students for whom English is a second language are required upon arrival to take the Examination in English as a Second Language (EESL) and enroll in any necessary class in English as a second language. In some cases this will mean that students will be required to take reduced course loads in their major field until English proficiency can be demonstrated in the English classes. The requirements cannot be postponed.

Auditors

Persons who have not been accepted by the University for the semester they wish to attend may request permission to audit courses only after the close of registration. Applicants must present to the Admissions Office written authorization from the instructor of the course they wish to audit, after which the Admissions Office will issue a class admission card upon payment of regular fees. Once enrolled, the student is restricted to auditor status and may not apply for credit at any time for work completed during the semester restricted to audit.

Other students who have been accepted by the University and register for credit may in addition audit courses. See the regulation under "Grades and Administrative Symbols." At the end of the semester the instructor will report audit on the grade sheet to the Records Office. However, such students may, in a later session, enroll in the course audited previously and complete it for credit.

Summer Session Students

Students who do not intend to become candidates for degrees or credentials at the University need not file an application for admission nor transcripts of record. Registration for credit in the summer session is limited to graduates of

accredited high schools and to persons of sufficient maturity to profit by enrollment in courses offered. Adults who do not wish to enroll for credit may register as auditors with the approval of the instructor and payment of fees. *Registration in the summer session does not insure the privilege of enrolling in the fall semester.* Students entering the University during the summer session who wish to re-enroll in the fall semester must file application and the necessary official transcripts of record at the Admissions Office and receive a registration permit before the opening of the fall semester.

Other Applicants

Applicants not admissable under one of the preceding provisions should enroll in a community college or other appropriate institution.

Applicants with Particular Majors

Applicants who do not meet the preceding provisions may be admitted to the University for the purpose of pursuing a major for which appropriate course work is not offered at the college from which they seek to transfer when they meet all of the following:

1. They have completed all appropriate course work offered.
2. They have attained a grade point average of 2.0 (C) in all transferable college work attempted.
3. They were in good standing at the last college attended.
4. They can, in the judgment of the University, succeed in that degree objective.

Returning Students

Any student previously enrolled in the University who has been absent more than one semester, or who has attended college during the absence from CSULB, must apply for admission and pay the application fee as though a new student. Students who have enrolled previously only in summer sessions or extension courses at the University are also required to follow the procedure for new students.

Any student who has been absent for no more than one semester who enrolled at the University and withdrew or otherwise left the University before the end of the fourth week of instruction, must file a complete application with the Office of Admissions and Records for admission the following semester. The application fee will be waived unless the person attended or is in attendance at a college elsewhere during the absence.

High School Students

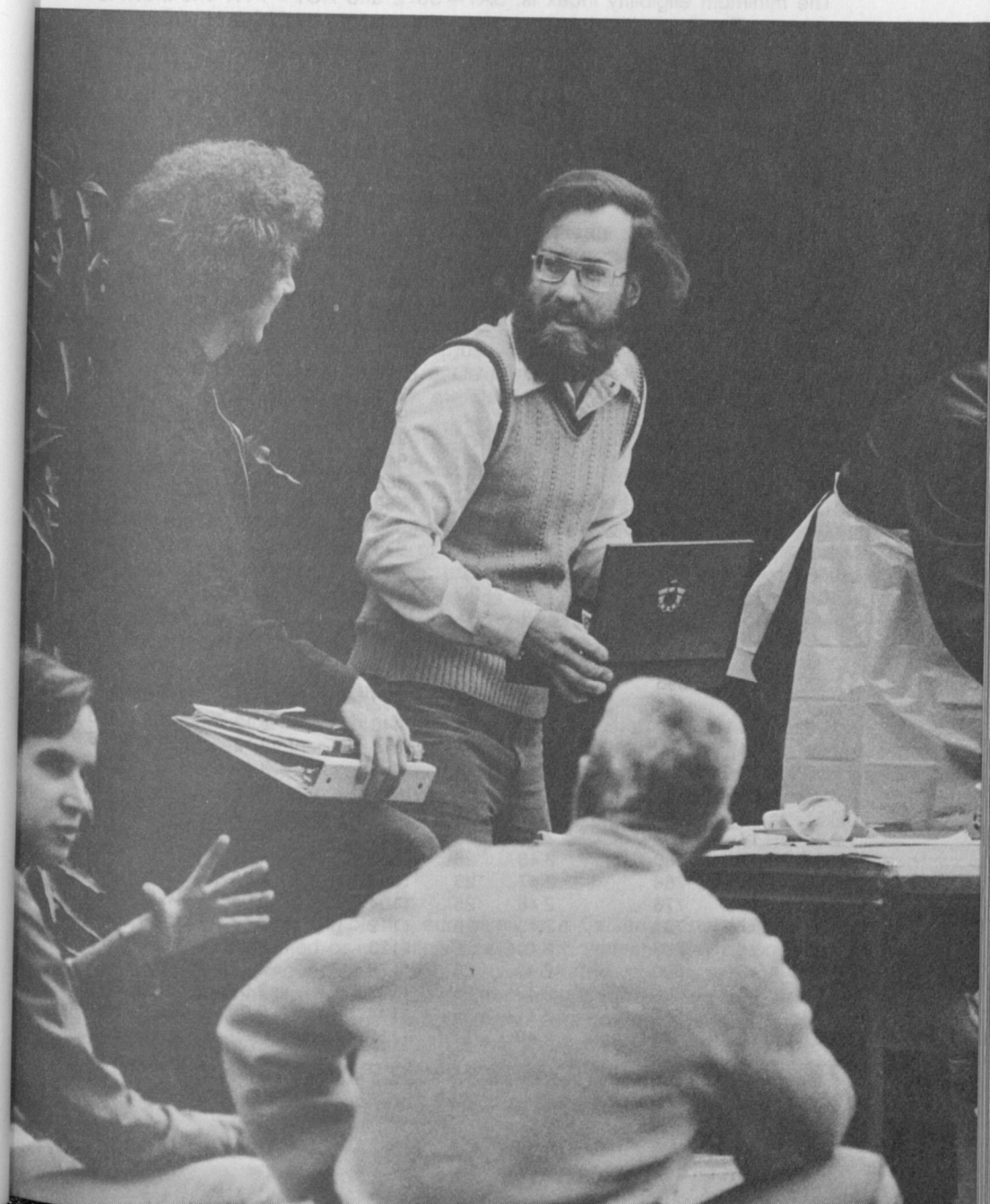
Students still enrolled in high school will be considered for enrollment in certain special programs if recommended by the principal and if preparation is equivalent to that required of eligible California high school graduates. Such admission is only for a given program and does not constitute the right to continued enrollment.

Recommended Preparation

Overall excellence of performance in high school subjects and evidence of academic potential provide the basis for admission at California State University, Long Beach. While no course pattern is required, the applicant to be properly prepared to undertake a full program of studies and particularly to pursue

the required program in General Education, is strongly encouraged to include the following subjects as minimally adequate background for college work:

1. College preparatory English.
2. Foreign language.
3. College preparatory mathematics.
4. College preparatory laboratory science.
5. College preparatory history and/or social science.
6. Study in speech, music, art, and other subjects contributing to general academic background.



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 grade point average must present the corresponding test score. Conversely, students with a given ACT or SAT score must present the corresponding grade point average 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.

G.P.A.	A.C.T. Score	S.A.T. Score
(—)[1]		
3.20	11	512
3.19	11	520
3.18	11	528
3.17	11	536
3.16	11	544
3.15	12	552
3.14	12	560
3.13	12	568
3.12	12	576
3.11	12	584
3.10	13	592
3.09	13	600
3.08	13	608
3.07	13	616
3.06	13	624
3.05	14	632
3.04	14	640
3.03	14	648
3.02	14	656
3.01	14	664
3.00	15	672
2.99	15	680
2.98	15	688
2.97	15	696
2.96	15	704
2.95	16	712
2.94	16	720
2.93	16	728
2.92	16	736
2.91	16	744
2.90	17	752
2.89	17	760
2.88	17	768
2.87	17	776
2.86	17	784
2.85	18	792
2.84	18	800
2.83	18	808
2.82	18	816
2.81	18	824
2.80	19	832
2.79	19	840
2.78	19	848
2.77	19	856
2.76	19	864
2.75	20	872
2.74	20	880
2.73	20	888
2.72	20	896
2.71	20	904
2.70	21	912
2.69	21	920
2.68	21	928
2.67	21	936
2.66	21	944
2.65	22	952
2.64	22	960
2.63	22	968
2.62	22	976
2.61	22	984
2.60	23	992
2.59	23	1000
2.58	23	1008
2.57	23	1016
2.56	23	1024
2.55	24	1032
2.54	24	1040
2.53	24	1048
2.52	24	1056
2.51	24	1064
2.50	25	1072
2.49	25	1080
2.48	25	1088
2.47	25	1096
2.46	25	1104
2.45	26	1112
2.44	26	1120
2.43	26	1128
2.42	26	1136
2.41	26	1144
2.40	27	1152
2.39	27	1160
2.38	27	1168
2.37	27	1176
2.36	27	1184
2.35	28	1192
2.34	28	1200
2.33	28	1208
2.32	28	1216
2.31	28	1224
2.30	29	1232
2.29	29	1240
2.28	29	1248
2.27	29	1256
2.26	29	1264
2.25	30	1272
2.24	30	1280
2.23	30	1288
2.22	30	1296
2.21	30	1304
2.20	31	1312
2.19	31	1320
2.18	31	1328
2.17	31	1336
2.16	31	1344
2.15	32	1352
2.14	32	1360
2.13	32	1368
2.12	32	1376
2.11	32	1384
2.10	33	1392
2.09	33	1400
2.08	33	1408
2.07	33	1416
2.06	33	1424
2.05	34	1432
2.04	34	1440
2.03	34	1448
2.02	34	1456
2.01	34	1464
2.00	35	1472
(—)[2]		

[1] Students earning grade point averages above 3.20 are eligible for admission.
[2] Students earning grade point averages below 2.0 are not eligible for admission.

Transfer of Undergraduate Credit

From Accredited Community Colleges

A maximum of 70 semester units earned in a community college may be applied toward the degree, with the following limitations:

(a) No upper division credit may be allowed for courses taken in a community college.
(b) No credit may be allowed for professional courses in education taken in a community college, other than an introduction to education courses.

From Accredited Four-Year Colleges

Refer to Residence under Degree Requirements in this *Bulletin*.

Admission of Postbaccalaureate and Graduate Students

Postbaccalaureate Standing. Unclassified.

For admission to unclassified postbaccalaureate standing, a student must: (a) hold an acceptable baccalaureate degree from an institution accredited by a regional accrediting association or have completed equivalent academic preparation as determined by an appropriate campus authority; (b) have attained a grade point of at least 2.5 (on a five-point scale) in the last 60 semester units attempted; and, (c) have been in good standing at the last college attended. Admission to a California State University or College with postbaccalaureate unclassified standing does not constitute admission to graduate degree curricula.

Postbaccalaureate Standing. Classified.

A student who is eligible for admission to a California State University or College in unclassified standing may be admitted to classified postbaccalaureate standing for the purpose of enrolling in a particular postbaccalaureate credential or certificate program, provided, that such additional professional, personal, scholastic, and other standards, including qualifying examinations, as may be prescribed for the particular program by the appropriate campus authority, are satisfied.

Graduate Standing. Conditionally Classified.

A student who is eligible for admission to a California State University or College under unclassified postbaccalaureate standard above, but who has deficiencies in prerequisite preparation which in the opinion of the appropriate campus authority can be met by specified additional preparation, including qualifying examinations, may be admitted to an authorized graduate degree curriculum with conditionally classified graduate standing.

Graduate Standing. Classified.

A student who is eligible for admission to a California State University or College in unclassified or conditionally classified standing may be admitted to an authorized graduate degree curriculum of the campus as a classified graduate student if she or he satisfactorily meets the professional, personal, scholastic or other standards for admission to the graduate degree curriculum, including qualifying examinations, as the appropriate campus authority 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 shall be eligible to proceed in such curricula.

Special Action.

An applicant who does not qualify for admission under the previous provisions may be admitted by special action if in the judgment of the appropriate faculty of the department/school concerned there exists acceptable evidence that the applicant possesses sufficient academic, professional and other potential pertinent to her/his educational objectives to merit such action, as shown through aptitude scores, recent academic performance and experiential background. For declared majors, departmental and school standards for special action will apply. Special action for undeclared majors will be determined by the Dean of Graduate Studies and Research.

Extension and Military Credit

A maximum of 24 semester units of extension and correspondence credit may be accepted toward the baccalaureate degree. Such credit must be accepted for degree purposes by the institution in which the work was taken. Extension credit may not be used to fulfill the minimum residence requirement.

Credit for military service is allowed in accordance with credit recommendations of the American Council on Education. To receive credit, students must file a photostatic copy of their discharge record with the Office of Admissions and Records.

Acceleration of University Studies

The University provides several means by which students may accelerate their college studies. Students currently enrolled as well as prospective students are urged to acquaint themselves with the various alternatives for acceleration outlined below and are strongly encouraged to take advantage of them. However, each of the following options may be subject to restrictions and regulations within the department concerned. Thus, before applying for any of these options the student should consult with the department concerned to learn its policy on the course or courses in question. Any course or requirement which is not so restricted or regulated may be substituted for in one of the following ways:

Waiver of Course Requirement

Students who feel that previous training has sufficiently prepared them in a certain area may request waivers of specific course requirements. Requests for waiver of course requirements can be made on an application form available in the Office of Admissions and Records. A waiver of specific course requirements does not reduce the total number of credits required for a degree, but it does allow students to take additional courses better suited to their background, interests and needs.

Credit by Examination

Students may apply also for course credit by examination. Credits earned in this manner will be recorded as CR (credit) on the student's transcript and will be counted toward the total number of units required for the degree although they will not be included in calculation of the grade point average. If a student fails the examination, the grade will not be included on his or her record. A student may take any examination once per academic year, repeating it a maximum of three times. Credit by examination may not be used to fulfill the minimum residence requirement.

The University sets no maximum on the number of credits a student may receive by examination. However, to receive credit in excess of 15 units a petition must be made to the Scholastic Standards Committee through the appropriate department chairperson. A student may not receive credit by examination for any course which is a prerequisite to one for which credit has been received, to remove a grade of F or to satisfy the courses required for a major in a master's degree. Application forms to apply for credit by examination are available in the Office of Admissions and Records.

The following statements of policy should be adopted as governing the rights and limits of departments, regarding such policies as they may wish to adopt in terms of accelerated study:

1. Each department shall adopt a policy statement on credit or waiver by examination, consistent with state law and the governing rules of the University, and shall make such a statement available to any student requesting it. In the absence of a policy statement, all of the courses offered by a given department shall be presumed available for credit or waiver by examination.
2. No department shall be expected to offer credit or waiver by examination in any courses the content or procedure of which it deems academically unsuitable to such examination.
3. No department shall be expected to offer credit or waiver by examination for which the department and its faculty and staff are not in some ways reimbursed, by such means as staffing formula credit, released time, extension or fees.

Advanced Placement

The University 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 of college credit.

English Placement Test and Graduation Requirements

All students subject to degree requirements of 1977-78 and subsequent general catalogs must demonstrate competency in writing skills as a requirement for graduation. In addition, all lower division students (those who enter with fewer than 56 transferable semester units) are required to take the CSUC English Placement Test (EPT) so that information can be available to help in the selection of appropriate course work in writing skills and to prepare for meeting the graduation requirement. Failure to take the English Placement Test at the earliest opportunity after admission may lead to administrative probation which, according to Section 41300.1 of Title 5, *California Administrative Code*, and CSUC Executive Order 186, may lead to disqualification from further attendance. *The results of the EPT will not affect admissions eligibility.*

Information bulletins and registration materials for the EPT will be mailed to all students subject to these requirements. Alternatively, the materials may be obtained from the Office of Admissions and Records. Information on currently available ways to meet the EPT or the graduation requirement may be obtained from Department of English, Humanities Office Building, Room 419.

Earn College Credit Prior to High School Graduation

High school students in the last semester of their senior year may enroll in a course at the University which is taken concurrently while they are finishing their high school requirements. Outstanding high school students may enroll also in college courses during the summer between their junior and senior year. These

programs are particularly useful to students who wish to fulfill the general education requirements early in their college career. Students are accepted for these programs on the bases of their high school record and the recommendation of their principal.

Admission Procedures

Permission to register in the University requires authorization from the Admissions Office. No student may attend any class without written verification of acceptance by the University and without registering and payment of fees.

Classification of Students

The class standing of undergraduate students at the time of admission is based on the number of units accepted. Undergraduate students who have completed fewer than 30 units are classified as freshmen; fewer than 60 units, sophomores; fewer than 90 units, juniors; 90 units or more, seniors.

Determination of Residence for Nonresident Tuition Purposes

New and returning students of The California State University and Colleges are classified for the purpose of determining the residence of each student for nonresident tuition purposes. The Residence Questionnaire and, if necessary, other evidence furnished by the student is used in making these determinations. A student may not register and enroll in classes until his Residence Questionnaire has been received by the Office of Admissions and Records.

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 is found in *Education Code* Sections 68000-68090, 90403, 89705-89707.5 and 68122, 68124 and 68121, and in Title 5 of the *California Administrative Code*, Article 4 (commencing with Section 41900) of Subchapter 5 of Chapter 1, Part V. A copy of the statutes and regulations is available for inspection at the campus Office of Admission and Records.

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 are 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 parents, 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 1978-79 academic year are September 20, 1978 and January 25, 1979. 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 from 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, who remained, 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. The exception, once attained, 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 refugees. Certain alien graduates of California public high schools.
8. Certain credentialed, full-time employees of school districts.
9. 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.
10. Certain exchange students.
11. 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.

12. 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:

The California State University and Colleges
Office of General Counsel
400 Golden Shore
Long Beach, California 90802

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.

Registration Procedures

When admission requirements have been satisfied, the student is ready to register for classes at the University. Generally, registration involves securing the Permit to Register, final health clearance and payment of fees.

Students who have been accepted for admission should purchase the *Schedule of Classes* in the University Bookstore before registration. Registration dates, time and detailed instructions are included in the *Schedule of Classes*.

Concurrent Enrollment

Students wishing concurrent enrollment at this University and one of the other 18 California State Universities and Colleges must request permission to do so from the Registrar. Concurrent enrollment within The California State University and Colleges system is limited to students who have completed a minimum of one semester and 12 units at CSULB with a 2.0 grade point average and must have paid fees at CSULB for 12 units or more. No additional fees may be collected after the last day to add classes.

Students wishing to have concurrent enrollment at this University and another institution outside of The California State University and Colleges system must request permission from the Director of Admissions and Records.

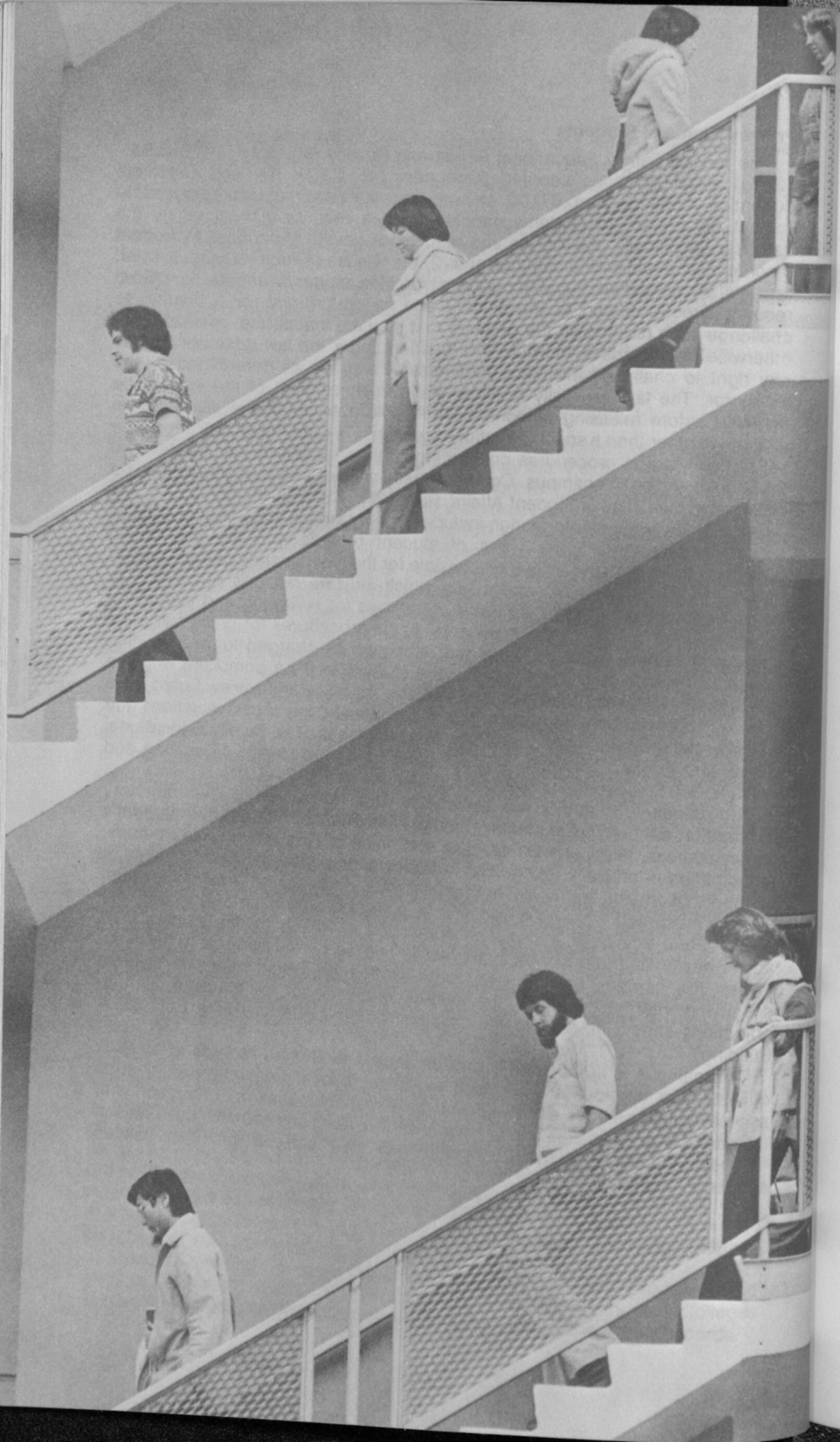
Privacy Rights of Students

The federal Family Educational Rights and Privacy Act of 1974 (20 U.S.C. 1232g) and regulations adopted thereunder (45 C.F.R. 99) and California Education Code Section 67100 et seq., set out requirements designed to protect the privacy of students concerning their records maintained by the campus. Specifically, the statute and regulations govern (1) access to student records maintained by the campus, and (2) the release of such records. In brief, the law provides that the campus must provide students access to official records directly related to the student and an opportunity for a hearing to challenge such records on the grounds that they are inaccurate, misleading or otherwise inappropriate; the right to a hearing under the law does not include any right to challenge the appropriateness of a grade as determined by the instructor. The law generally requires that written consent of the student be received before releasing personally identifiable data about the student from records to other than a specified list of exceptions. The institution has adopted a set of policies and procedures concerning implementation of the statutes and the regulations on the campus. Copies of these policies and procedures may be obtained at the Office of Student Affairs, Room 211, SS/A Building.

Among the types of information included in the campus statement of policies and procedures is: 1) the types of student records and the information contained therein; 2) the official responsible for the maintenance of each type of record; 3) the location of access lists which indicate persons requesting or receiving information from the record; 4) policies for reviewing and expunging records; 5) the access rights of students; 6) the procedures for challenging the content of student records; 7) the cost which will be charged for reproducing copies of records, and 8) the right of the student to file a complaint with the Department of Health, Education and Welfare. An office and review board have been established by the Department to investigate and adjudicate violations and complaints. The office designated for this purpose is: The Family Educational Rights and Privacy Act Office (FERPA), Department of Health, Education and Welfare, 330 Independence Avenue, SW, Washington, D.C. 20201.

The campus is authorized under the Act to release public directory information concerning students. Directory information includes the student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student, and any other information authorized in writing by the student. The above designated information is subject to release by the campus at any time unless the campus has received prior written objection from the student specifying information which the student requests not be released. Written objections should be sent to the Office of Student Affairs (Room 211, SS/A Building).

The campus is authorized to provide access to student records to campus officials and employees who have legitimate educational interests in such access. These persons are those who have responsibilities in connection with the campus' academic, administrative or service functions and who have reason for using student records connected with their campus or other related academic responsibilities.



General Regulations and Procedures

Notice

The Board of Trustees of The California State University and Colleges, in Section 43800 of Title 5 of the *California Administrative Code,* has reserved the right to add, amend, or repeal any of its regulations, rules, resolutions, standing orders and rules of procedures, in whole or in part, at such time as it may choose. None shall be construed, operate as, or have the effect of an abridgement or limitation of any rights, powers or privileges of the Trustees. The Chancellor reserves the right to add, amend or repeal any of his Executive Orders, at such time as he may choose, and the President of California State University, Long Beach reserves the right to add, amend or repeal provisions of this catalog and rules of the University, including handbooks, at such time as he may choose. No Executive Order shall be construed, operate as, or have the effect of an abridgement or limitation of any rights, powers or privileges of the Chancellor nor shall any catalog provision or rule of the University be construed, operate as, or have the effect of an abridgement or limitation of any rights, powers or privileges of the President.

Every effort has been made to assure the accuracy of the information in this catalog. Students are advised, however, that such information is subject to change without notice. Therefore, they should consult the appropriate instructional departments, schools or administrative offices for current information.

Nondiscrimination

The California State University and Colleges does not discriminate on the basis of sex, handicap, race, color, religion, national origin, age, or veteran status in the educational programs or activities including employment and admission. The CSUC operates in accordance with Section 504 of the Rehabilitation Act of 1973, as amended; and the regulations adopted thereunder; Title IX of the Education Amendments of 1972, as amended, Section 86.9 of the administrative regulations adopted by the Department of Health, Education and Welfare; the Vietnam Era Veteran Readjustment Assistance Act of 1972, as amended, or any other federal/state non-discrimination statutes.

John W. Shainline, Vice President for Student Affairs, has been designated to coordinate the efforts of California State University, Long Beach to comply with the Rehabilitation Act of 1973 and its implementing regulations. Inquiries may be addressed to him at California State University, Long Beach, 1250 Bellflower Boulevard, Long Beach, California 90840, (213) 498-5587; or the University Affirmative Action Officer, 498-5572 or the Director of Physical Planning and Development, 498-4131.

Inquiries concerning the application of the other non-discrimination statutes may be referred to Dr. Walter L. Reed, the University Affirmative Action Officer, (213) 498-5572.

Grades and Administrative Symbols

General Policy

1. University policy requires that final grades shall be based on at least three, and preferably four or more, demonstrations of competence by the student.
2. In no case shall the grade on the final examination count for more than one-third of the course grade.
3. Instructors are expected to keep a record of students' scores on each of the demonstrations of competence on which the final grade is based.
4. Students have a right to be informed promptly of their scores and to review each of their demonstrations of competence with their instructors.
5. Instructors are expected to provide students with an opportunity for demonstration of competence, relevant to the determination of their final grade in the course, as early as is reasonable and no later than the mid-point of the semester or summer session.
6. Instructors are further expected to make clear to their students during the first week of instruction what grading policies and practices will be employed in the class.
7. If materials submitted for a demonstration of competence are not returned, these materials will be retained for one semester by the instructor or, should the instructor be on leave, by the department. A qualified instructor may be appointed by the chair, in the absence of the original instructor, to review the demonstrations of competence with the student.

Grades

Students' work in each course is recorded in the Records Office on one of seven grades.

A: Performance of the student has been of the highest level, showing sustained excellence in meeting all course responsibilities and exhibiting an unusual degree of intellectual initiative.

B: Performance of the student has been at a high level, showing consistent and effective response in meeting course responsibilities.

C: Performance of the student has been at an adequate level, showing understanding of the basic requirements of the course content.

D: Performance of the student has been less than adequate, showing inconsistency in meeting the course requirements and minimal mastery of the basic requirements of the course content.

F: Performance of the student has been such that course requirements have not been met.

CR: Credit-evaluation of work at A, B or C level of competence.

NC: Credit-evaluation of work at D or F level of competence.

The symbol "I" (incomplete) may be assigned if all of the required course work has not been completed, but there is a possibility of completing the remaining requirements satisfactorily. CR will be used to note satisfactory completion of such courses as student teaching, supervisory and field work. (Examples: Secondary Education 481A-B, Student Teaching in the Secondary Schools; Elementary Education 481, Student Teaching in the Elementary Grades; Education Single Subject 300, Preliminary Directed Field Experiences).

Grades reported to the Admissions and Records Office are official. Correction of grades can be made only by the instructor on the basis of clerical error or grade appeal.

Credit-No Credit Grading

The present system of credit/no credit for California State University, Long Beach was approved by the Chancellor effective Fall Semester, 1973, for undergraduate students. CR is equivalent to A, B, or C on the traditional scale, and NC is equivalent to D or F. Neither grade counts toward a student's grade point average, but the system is so structured that a student must offset any units graded NC with an equal number of units graded A, or twice as many units graded B, to avoid being placed on probation. The policies governing the availability of CR/NC grading at CSULB are as follows:

CR/NC grading shall be available to any undergraduate students in residence at CSULB in any class or classes they choose, subject to limitations imposed by University or department policy. The University allows a student to elect no more than 24 units in residence, 12 units in upper division courses or eight units per semester on a CR/NC basis, excluding courses taken at another institution, courses credit for which are earned by examination or courses at CSULB that are uniformly offered on a CR/NC basis. Subject to School guidelines, departments and interdepartmental programs may regulate the availability of CR/NC grading in courses offered within the department and/or required for degree concentrations controlled by the department. Units taken under the previous pass/fail policy will count toward the total of 24 CR/NC units.

To receive a grade of CR or NC for a class in which they are enrolled, students must inform the Admissions and Records Office of their preference by the end of the fourth week of instruction, at which time they must (1) have obtained approval from the department offering the course and from the major department; (2) attest to their awareness of the irreversibility of their decision and of the fact that CR/NC grading may not be acceptable to certain graduate schools and employers; and (3) supply certain confidential information requested by the University in its attempt to assess and evaluate the CR/NC system.

Administrative Symbols

Audit (AU)

Enrollment as an auditor is subject to the permission of the instructor provided that enrollment in any course as an auditor is permitted only after students otherwise eligible to enroll in the course on a credit basis have had an opportunity to do so. Auditors are subject to the same fee structure as credit students and regular class attendance is expected. Once enrolled as an auditor, a student may not change to credit status unless such a change is requested prior to the last day to add classes.

A student who wishes to audit a course must file an Audit Card in the Admissions and Records Office after the end of the regular registration period and by the last day to add classes.

Incomplete (I)

The "I" symbol signifies that a portion of required course work (normally not more than one-third) has not been completed and evaluated in the prescribed time period due to unforseen, but fully justified, reasons and that there is still a possibility of earning credit. It is the responsibility of the student to bring pertinent information to the instructor and to reach agreement on the means by which the remaining course requirements will be satisfied. *Agreement as to the conditions for removal of the incomplete shall be reduced to writing by the instructor on a "Requirements for Assigning an Incomplete Grade" form. A copy of the agreement is to be given to the student, a copy is to be filed with the department chairperson and a copy is to be filed with the Admissions and Records Office at the time final grades are submitted.* A final grade is assigned when the work agreed upon has been completed and evaluated.

An "incomplete" must be made up within one calendar year immediately following the end of the term on which it was assigned. This limitation prevails whether or not a student maintains continuous enrollment. Failure to complete the assigned work will result in an "incomplete" being counted as equivalent to an "F" for grade point computation but the "I" will not be changed to an "F" or "NC," on the student's transcript. Any extension of this time period must receive prior approval of the department chairperson and the school dean. Students should not re-enroll for an incompleted course.

Report Delayed (RD)

The "RD" symbol may be used in those cases where a delay in the reporting of a grade is due to circumstances beyond the control of the student. The symbol is assigned by the Registrar when the instructor's grades are not available and must be replaced by a more appropriate grading symbol as soon as possible. An "RD" is not included in calculations of grade point average.

Satisfactory Progress (SP)

The "SP" symbol is used in connection with courses that extend beyond one academic term. The symbol indicates that work in progress has been evaluated as satisfactory to date but that the assignment of a precise grade must await the completion of additional course work. Cumulative enrollment in units attempted may not exceed the total number applicable to the student's educational objective. All work is to be completed within one calendar year of the date of first enrollment and a final grade is to be assigned to all segments of the course on the basis of overall quality. Any extension of this time period must receive prior authorization by the dean of the school.

Withdrawal (W)

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

Students are held responsible for completion of every course in which they register. Application for withdrawal from the University or from a class must be officially filed by the student at the Admissions and Records Office whether he or she has ever attended the class or not; otherwise, the student will receive a grade of "U" (unauthorized incomplete) in the course. Application for withdrawal is made at the Admissions and Records Office.

1. **Withdrawals during the first four weeks of instruction.** Students may withdraw without prejudice and the course will not appear on their permanent records during this period. To do this a student must file a *Complete Withdrawal Application* to drop **all** classes **or** a *Change of Program Card* for a specific class or classes along with a *Request to Withdraw from a Class Card* for every class dropped.

2. **Withdrawals after the fourth week of instruction and prior to the final three weeks of instruction.** Drops during this period are permissible only for serious and compelling reasons. The procedure for withdrawals during this period are the same as in item No. 1 except that the *approval signatures of the instructor and department chairperson are required.* The requests and approvals shall state the reasons for the withdrawal. Copies of such approvals are kept on file in the Admissions and Records Office.

3. **Withdrawals during the final three weeks of instruction.** Withdrawals during the final three weeks of instruction are not permitted except in cases such as accident or serious illness where the circumstances causing the withdrawal are clearly beyond the student's control and the assignment of an incomplete is not practical. Ordinarily, withdrawals in this category will involve total withdrawal from the campus except that credit or an incomplete may be assigned for courses in which sufficient work has been completed to permit an evaluation to be made. Request for permission to withdraw under these circumstances must be made in writing on forms available at the Admissions and Records Office. The requests and approvals shall state the reasons for the withdrawal. *These requests must be approved by the instructor, department chairperson and dean of the school.* Copies of such approvals are kept on file in the Admissions and Records Office.

4. **Medical withdrawals.** A student who becomes seriously ill or injured, or is hospitalized and hence is unable to complete the academic term may withdraw without academic penalty. A Physician's Statement for medical withdrawal obtainable from the Student Health Service, must be completed by the student's attending physician and submitted to the Medical Director. Additional evaluation by the Director of Financial Aid may be required for those students receiving financial aid. The Health Service, upon approval of such a request, will forward its recommendation to the Admissions and Records Office.

5. **Unauthorized incomplete (U).** The symbol "U" indicates that an enrolled student did not withdraw from a course but failed to complete course requirements. It is used when, in the opinion of the instructor, completed assignments or course activities or both were insufficient to make normal evaluation of academic performance possible. For purposes of grade point average and progress point computation, this symbol is equivalent to an "F."

6. **Instructor withdrawals.** An instructor *may* withdraw a student who has never attended a class by completing an "Instructor Drop" card, and submitting it to the Admissions and Records Office with the accompanying enrollment

verification list at the end of the third week of classes. Students, however, should not rely on the instructor's doing this and should officially withdraw from classes themselves to avoid getting "U's" on their records.

An instructor may also withdraw a student who has enrolled in a course requiring "Instructor Permission" if the student has not properly secured this permission before enrolling.

Adding Classes

Students may add classes for two weeks after classes begin. A student may petition to add classes after the second and no later than the end of the fourth week. No petitions to add classes will be considered after four weeks unless there is a technical error and such addition does not necessitate additional fees.

Final Grade Reports

Reports of final grades are mailed to each student at the end of each session.

Grade Appeals

Students have the right to appeal their final grades, and only their final grades, in any course. The basis of appeal is the claim that the grade was prejudicially or capriciously assigned. Such an appeal must be initiated by the student who claims to be aggrieved within the first regular semester or special session after the assignment of the grade in question, and the appeal must first be directed to the instructor of the course, orally or in writing. If further action is deemed necessary, the student should next direct his or her appeal to the department chairperson, or to such persons as may be designated departmental representatives in grade appeals matters. If the issue remains unresolved, the student may direct the appeal to a grade appeals committee of the school concerned. Information about school grade appeals committees can be obtained from the offices of the school deans.

Faculty Office Hours

The faculty of the University are available to meet student needs through the maintenance of office hours. Members of the full-time faculty keep a minimum of five office hours a week spaced over at least three days of the week. Part-time faculty keep one office hour a week for each class of their teaching load. In addition to the regularly scheduled office hours required of each faculty member, many members of the faculty are available to students through the scheduling of appointments. Times of office hours are posted outside each faculty office and are available through inquiry at the department office.

Academic Renewal

A student may petition to have all grades and units received during one or two semesters (or up to three quarter terms) of undergraduate work disregarded in the computation of grade point average and academic standing. The work so disregarded may have been taken at any collegiate-level institution but no work taken during the disregarded terms, even if satisfactory, may apply toward baccalaureate requirements. All grades and units attempted will remain on record. At least five calendar years must have elapsed since the work in question was completed and the student must have subsequently completed 15 semester units with a 3.0 grade point average (or 30 semester units with a 2.5 or 45 semester units with a 2.0) at this University before filing a request for disregarding the course work.

Petitions for disregarding course work shall be submitted to the Records Office. Final determination shall be made by the Vice President for Academic Affairs in consultation with the University Scholastic Standards Committee. The petitioning student must certify that the work to be disregarded was not reflective of his or her present level of academic performance. This certification must include a statement explaining the extenuating circumstances causing the substandard performance during the term in question. The student must also provide evidence that it would be necessary to complete additional units or semesters in order to qualify for the baccalaureate degree if the request were not approved.

Repetition of Courses

A student who has received a grade of D, F, U or NC may repeat the course and receive the grade assigned by the instructor under whom the course is repeated. The course may be repeated more than once and, for undergraduate students, the first D, F, U or NC grade will be omitted from the computation of units attempted and grade points earned. In exercising this option, students should normally repeat the course at this campus. However, a course that is to be repeated may be taken at another institution provided it is equivalent in every respect to the one that is given at CSULB. The decision as to whether a course qualifies as being equivalent shall be at the discretion of the chairperson or director of the academic area at CSULB in which the course is to be repeated. Students would be advised to solicit, in advance, an assurance in writing from the chairperson or director of the academic area at CSULB that the course is equivalent and acceptable. Subsequent repetitions of the course will be included in the computation of units attempted and grade points earned, but the extra units taken may not be counted toward graduation. All grades received in repetitions of courses will remain on record.

The student must file a formal request at the Records Office for permission to have the grade disregarded for grade point computation before the end of the semester in which the course is repeated. This request must be approved by the chairperson of the department in which the course is offered.

A student who receives a CR, C or better in a course may not repeat the course.

Repeatable Courses

A student may repeat for additional units of credit toward a baccalaureate degree any course specified as repeatable in the *Undergraduate Study Bulletin* up to the limits specified. Each department determines the unit limits and any other limitations for courses that may be repeated. In general, except for activity courses, a student may not enroll in a course having the same content as the one for which credit was initially received.

Scholastic Probation and Disqualification

Academic Probation

Undergraduate students are placed on academic probation if at any time their cumulative grade point average in all college work attempted *or* their cumulative grade point average at California State University, Long Beach falls below 2.0 (C) *or* if during any semester while they are enrolled they fail to earn at least two times as many progress points as all units attempted.

The grade point average is computed by dividing the number of grade points by the number of units attempted. The progress point average is computed by dividing the number of progress points by the number of units attempted. Progress point average is computed for a single term only. Excess progress

points from a previous semester may not be used to offset a progress point deficiency from a subsequent term.

Following is a chart showing the points assigned each grade used in computing the grade point average and the progress point average:

Grade Point Computation	*Progress Point Computation*
A receives 4 points per unit	A receives 4 points per unit
B receives 3 points per unit	B receives 3 points per unit
C receives 2 points per unit	C receives 2 points per unit
D receives 1 point per unit	D receives 1 point per unit
F receives 0 points per unit	F receives 0 points per unit
U receives 0 points per unit	U receives 0 points per unit
	CR receives 2 points per unit
	NC receives 0 points per unit

Symbols of AU (Audit), RD (Report Delayed), SP (Satisfactory Progress) and W (Withdrawal) are not used in computing the grade point average or the progress point average.

Undergraduate students shall be removed from academic probation when their cumulative grade point average in all college work attempted and their cumulative grade point average at California State University, Long Beach is 2.0 (C) or higher *and* when they earn at least twice as many progress points as all units attempted in a semester.

Academic Disqualification

Undergraduate students on academic probation are subject to academic disqualification:

A. As a lower division student (less than 60 semester hours of college work completed) if they fall 15 or more grade points below a 2.0 (C) average on all units attempted or on all units attempted at California State University, Long Beach.
B. As a junior (60-89 semester hours of college work completed) if they fall nine or more grade points below a 2.0 (C) average on all units attempted or on all units attempted at California State University, Long Beach.
C. As a senior (90 or more semester hours of college work completed) if they fall six or more grade points below a 2.0 (C) average on all units attempted or on all units attempted at California State University, Long Beach.
D. Regardless of class level or cumulative grade point average, if in any semester while they are on probation they fail to earn at least twice as many progress points as units attempted.

In addition to the above disqualification standards applicable to students on probation, individuals not on probation may be disqualified when the following circumstances exist:

1. At the end of any semester the student has fewer cumulative grade points than cumulative units attempted, and
2. The cumulative grade point deficiency is so great that in view of the student's overall educational record it seems unlikely that the deficiency will be removed within a reasonable period.

Administrative-Academic Probation

An undergraduate or graduate student may be placed on administrative-academic probation by action of appropriate campus officials for any of the following reasons:

A. Withdrawal from all or a substantial portion of a program of studies in two successive semesters or in any three semesters.
B. Repeated failure to progress toward the stated degree objective or other program objective (when such failure appears to be due to circumstances within the control of the student).
C. Failure to comply, after due notice, with an academic requirement or regulation which is routine for all students or a defined group of students (example: failure to take placement tests, failure to complete a required practicum).

Administrative-Academic Disqualification

A student who has been placed on administrative-academic probation may be disqualified from further attendance if:

A. The conditions for removal of administrative-academic probation are not met within the period specified.
B. The student becomes subject to academic probation while on administrative-academic probation.
C. The student becomes subject to administrative-academic probation for the same or similar reason for which he or she has been placed on administrative-academic probation previously, although not currently in such status.

Reinstatement

In order to be considered for reinstatement to the University, a disqualified student must demonstrate academic ability. This demonstration can be achieved by: (1) completing courses through the Continuing Education and/or Summer Session programs at CSULB, earning grades that reduce the student's grade point deficiency by one-half*; or (2) completing classes at other academic institutions, earning grades that would, if computed with the CSULB academic record, reduce the grade point deficiency by one-half. All classes taken, whether at CSULB or other academic institutions, must be applicable for degree credit. *Grades earned at other institutions do not actually reduce the CSULB grade point deficiency or change the CSULB grade point average. Grades earned elsewhere are only indicators of academic ability. Grade changes are not sole indicators of academic ability unless the deficiency of grade points is reduced within the standards.*

After reducing the grade point deficiency by one-half and/or demonstrating academic ability at other institutions,* the student may then petition the University Scholastic Standards Committee for reinstatement.

Petition forms are available at the Office of Admissions and Records.

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* Example: A student deficient twelve (12) grade points at the time of the disqualification must earn at least six (6) excess grade points in classes taken after disqualification. All transferable college courses completed after disqualification at all institutions are averaged to determine excess grade points earned and reinstatement eligibility. Only grades of A and B earn excess grade points. Grades of A earn two (2) excess grade points per unit of class; grades of B earn one (1) excess grade point per unit of class. Grades of C do not earn excess grade points and do not contribute to reinstatement. Grades of D and F reduce the number of excess grade points earned by A and B grades at the rate of one (1) grade point per unit of D and two (2) grade points per unit of F.

Examples

Progress Point System

General Principles

1. Academic status is based on *both quality of performance* and *progress toward student's educational objective.*
2. *The grade point average* is based on courses in which *letter grades* are earned.
3. Progress is based on the relationship of *registered units attempted* to progress points earned.
4. *Credit/No Credit* course units, while not included GPA computation, *are included in progress point* computation.

STUDENT A

REGISTERED UNITS			PERFORMANCE		
CR/NC	Letter graded	Total registered units	Grades	Progress points	Grade points
3			NC	..	..
3			NC	..	..
	3		A	12	12
	3		A	12	12
6	6	12		24	24

Progress OK since student earned twice as many progress points as registered units

G.P.A. = 4.0

Academic Status: Good Standing

Student A, despite NC grades in two courses, remains in good academic standing because of A grades in the other courses. This illustrates that strong students can withstand some NC grades since the balance of their excellent record sustains them.

STUDENT B

REGISTERED UNITS			PERFORMANCE		
CR/NC	Letter graded	Total registered units	Grades	Progress points	Grade points
3			CR	6*	..
3			NC	..	..
	3		B	9	9
	3		B	9	9
6	6	12		24	18

Progress OK since student earned twice as many progress points as registered units.

G.P.A. is 3.0 since asterisked points generated by CR grade are not included in computing G.P.A.

Academic Status: Good Standing

*Credit grade is assigned same grade point value as C grade in order to compute student's progress. Neither points or units of CR grade or units of NC grades are used in computing G.P.A.

Student B, like Student A, has an overall record that provides good standing. Student B has B grades in two courses and earned CR (Credit in one of the two other courses. Again, this overall record keeps Student B in good standing.

STUDENT C

REGISTERED UNITS		PERFORMANCE		
CR/NC	Letter graded	Total registered units	Grades	Progress points	Grade points
	3		C	6	6
	3		D	3	3
	3		C	6	6
	3		C	6	6
	12	12	C	21	21

Progress unsatisfactory since student did not earn twice as many progress points as registered units

G.P.A. = 1.75

Academic Status: Probation

Student C is on probation both on progress points and grade points.

STUDENT D

REGISTERED UNITS			PERFORMANCE		
CR/NC	Letter graded	Total registered units	Grades	Progress points	Grade points
1st Term					
3			CR	6*	..
3			NC	..	..
	3		C	6	6
	3		C	6	6
6	6	12		18	12

Progress unsatisfactory

G.P.A. = 2.0 because asterisked points are not included in computation

Academic Status: placed on Academic Probation

2nd Term					
3			CR	6*	..
3			NC	..	..
	3		C	6	6
	3		C	6	6
6	6	12		18	12

Progress unsatisfactory

G.P.A. = 2.0

Academic Status: Academic Disqualification

*Credit grade is assigned same grade point value as C grade in order to compute student's progress. Neither points or units of CR grade or units of NC grades are used in computing G.P.A.

Student D is at the minimum level (C) in graded courses and, thus, cannot afford any NC grades. Thus, Student D is disqualified after two semesters. Note the difference between this student and Students A and B who have good enough grades to offset the NC grades.

Grading System

Grade or symbol	Units attempted	Units earned	Grade-point value	Progress-point value
Traditional Grades				
Satisfactory				
A	Yes	Yes	4	4
B	Yes	Yes	3	3
C	Yes	Yes	2	2
Unsatisfactory				
D	Yes	Yes	1	1
F	Yes	No	0	0
Non-Traditional Grades				
CR (Credit)	No*	Yes	0	2*
NC (No Credit)	No*	No	0	0*
Administrative Symbol				
I (Incomplete)	No	No	0**	0**
W (Withdrawal)	No	No	0	0
AU (Audit)	No	No	0	0
SP (Satisfactory Progress)	No	No	0	0
RD (Report Delayed)	No	No	0	0
U (Unauthorized Incomplete)	Yes	No	0	0
Totals	Used in GPA	Counted Toward Objective	Used in GPA	Counted Toward Progress

* Credit/No Credit course units are not included in grade point computations; however, Credit/No Credit course units attempted are included in progress point computations.

** If not completed within one calendar year, the "I" will be counted as an "F" for grade-point and progress point calculation.

Student Load

Students who carry 12 units or more in a fall or spring semester are classified as full-time students. Those who carry less than 12 units are part-time students.

Maximum unit load:

- Graduates 16
- First Semester Freshmen 17
- Students on Academic Probation 17
- All Other Students 18
- Summer and Winter Sessions ..... 1 unit per week of attendance

Exceptions to these limits may be made only on the basis of proven academic ability and the feasibility of the student's schedule. Permission must be obtained (prior to registration) from appropriate authorities: in the regular session, from the student's major department, in summer and winter sessions, from the school dean who governs the student's major. (Unclassified majors must consult the Counseling Center.)

A student whose outside employment could be expected to interfere with the normal unit load should reduce his or her academic program accordingly.

In general, students enrolled in teacher education should not register for more than 14 units of course work during the semester of student teaching,

including the units for student teaching.

Veterans should inquire about unit load requirements for state and federal benefits.

For graduate student load, see *Graduate Bulletin.*

Undergraduate international students on non-immigrant visas must carry and complete a minimum of 12 units per semester unless a reduced load is authorized by the student's adviser and the International Center. Reduced unit loads may be granted for substantial academic reason or compelling personal reasons beyond the control of the student. Failure to secure such authorization results in violation of student status under Immigration and State Department regulations, warranting discontinuance of enrollment.

Class Attendance

Students are expected to attend classes regularly because classroom work is one of the necessary and important means of learning and of attaining the educational objectives of the institution.

Students should not miss classes except for valid reasons, such as illness, accidents or participation in officially approved University activities. When a student is absent from classes, it is his or her responsibility to inform instructors of the reason for the absence and to arrange to make up missed assignments and class work insofar as this is possible.

Any student who expects to be absent from the University for two weeks or more for any valid reason, and who has found it difficult to inform his or her instructors, should notify the academic department office and the Office of the Vice President for Student Affairs. The department office will notify the student's instructors of the nature and duration of the extended absence. It remains the responsibility of the student to arrange with instructors to make up any academic work missed.

Final Examinations

It is the policy in most courses to have several examinations during the semester and a comprehensive final examination. Final examinations are required in all courses for all students, except in certain activity courses or when the Dean of the School authorizes an exception. The general supervision of examinations, and the scheduling and control of final examinations, is the responsibility of the Director of Academic Planning.

Permission to take a final examination at a time other than that regularly scheduled must be secured at least one week in advance of any change. The instructor may not change the schedule without authorization from the Dean of the School.

Educational Leave

Any registered undergraduate or graduate student in good academic standing is eligible to request an educational leave. Students requesting such a leave must complete an educational leave form to include an explanation of their reason for seeking an educational leave and a statement of when they intend to resume academic work. The completed form is to be submitted to the student's academic adviser.

The minimum initial leave will be one full semester; the maximum will be one calendar year. A student may request, in writing, an extension of leave at least two months prior to its termination. Under no circumstances shall the total of successive leaves exceed two calendar years.

Students returning from an approved educational leave are required to submit an application form but will not be required to pay another application fee

if terms of the leave have been satisfied.

Students who plan to enroll for credit at another institution of higher education during the leave period must obtain prior approval from the University. (See educational leave form.)

Applications for an educational leave must be filed with the Admissions and Records Office at least six weeks prior to close of the last semester before leave is taken.

If housing or financial aid is to be requested upon return to the University, arrangements must be made with the appropriate offices according to their published schedules.

Change of Objective

The evaluation of credits transferred to the University is based in part upon the objective indicated on the application for admission. Students who are candidates for a certificate program must also file an application card. Students who wish to change their degree or credential objective must file a change of objective form with the Office of Admissions and Records. (See Election of Regulations.)

Transferability of Credit for Cross-Listed Interdisciplinary Courses

Certain interdisciplinary courses are listed in this Bulletin under more than one department. Normally, students will receive credit for such a cross-listed course in the department under which they register for it. They may, however, have the Registrar indicate that this course may be credited to a different department which also lists it, provided that they make this request no later than the end of the semester preceding anticipated graduation.

Degree Check

Senior and graduate students who expect to receive degrees and/or credentials at the end of any session must complete the *Graduation Application* card and/or *Credential Application* card. The appropriate application for June candidates must be filed by the preceding September 15; for February and summer session graduates, by the preceding February 1 at the Admissions and Records Office.

Credential Programs for Public School Service

Candidates for public school service credentials at the University are advised to familiarize themselves with the requirements for these programs. Specific information on credential programs is available in the Credential Advisement Handbook and through departmental offices of the School of Education. Application for student teaching and for field work in pupil personnel services must be filed by October 1 for spring semester and March 1 for fall semester. Application for field work in administration must be filed during the semester preceding that in which the student expects to enroll in field work.

Conduct on Campus

Violation of Sections 41301 and 41302 in Article 1, Subchapter 3, Chapter 5, Title 5 of the *California Administrative Code* can result in disciplinary action on campus.

Expulsion, Suspension and Probation of Students

41301. Expulsion, Suspension and Probation of Students. Following procedures consonant with due process established for the state university or college of which he is a student, any student of a state university or college may be expelled, suspended, placed on probation or given a lesser sanction for one or more of the following causes which must be state university or college related:

(a) Cheating or plagiarism in connection with an academic program at a state university or college.

(b) Forgery, alteration or misuse of state university or college documents, records, or identification or knowingly furnishing false information to a state university or college.

(c) Misrepresentation of oneself or of an organization to be an agent of a state university or college.

(d) Obstruction or disruption, on or off university property, of the state university or college educational process, administrative process, or other university function.

(e) Physical abuse on or off university property of the person or property of any member of the university community or of members of his family or the threat of such physical abuse.

(f) Theft of, or nonaccidental damage to, state university or college property; or property in the possession of, or owned by, a member of the university community.

(g) Unauthorized entry into, unauthorized use of, or misuse of state university or college property.

(h) On state university or college property, the sale or knowing possession of dangerous drugs, restricted dangerous drugs, or narcotics as those terms are used in California statutes, except when lawfully prescribed pursuant to medical or dental care, or when lawfully permitted for the purpose of research, instruction or analysis.

(i) Knowing possession or use of explosives, dangerous chemicals or deadly weapons on state university or college property or at a state university or college function without prior authorization of the state university or college president.

(j) Engaging in lewd, indecent, or obscene behavior on state university or college property or at a state university or college function.

(k) Abusive behavior directed toward a member of the university community.

(l) Violation of any order of a state university or college president, notice of which had been given prior to such violation and during the academic term in which the violation occurs, either by publication in the campus newspaper, or by posting on an official bulletin board designated for this purpose, and which order is not inconsistent with any of the other provisions of this Section.

(m) Soliciting or assisting another to do any act which would subject a student to expulsion, suspension or probation pursuant to this Section.

(n) For purposes of this Article, the following terms are defined:

(1) The term "member of the university or college community" is defined as meaning state university or college Trustees, academic, nonacademic and administrative personnel, students, and other persons while such other persons are on state university or college property or at a state university or college function.

(2) The term "state university or college property" includes:

(a) real or personal property in the possession of, or under the control of, the Board of Trustees of the California State University and Colleges, and

(b) all state university or college feeding, retail, or residence facilities whether operated by a university or college or by a state university or college auxiliary organization.

(3) The term "deadly weapons" includes any instrument or weapon of the kind commonly known as a blackjack, sling shot, billy, sandclub, sandbag, metal knuckles, any dirk dagger, switchblade knife, pistol, revolver, or any other firearm, any knife having a blade longer than five inches, any razor with an unguarded blade, and any metal pipe or bar used or intended to be used as a club.

(4) The term "behavior" includes conduct and expression.

(o) This Section is not adopted pursuant to Education Code Section 23604.1.

(p) The provisions of this Section as hereinabove set forth only apply to acts and omissions occurring subsequent to its effective date. Notwithstanding any amendment or repeal pursuant to the resolution by which any provision of this article is amended, all acts and omissions occurring prior to that effective date shall be subject to the provisions of this Article as in effect immediately prior to such effective date.

41302. Expulsion, Suspension or Probation of Students; Fees and Notification. The President of the state university or college may place on probation, suspend, or expel a student for one or more of the causes enumerated in Section 41301. No fees or tuition paid by or for such student for the semester, quarter, or summer session in which he is suspended or expelled shall be refunded. If the student is readmitted before the close of the semester, quarter, or summer session in which he is suspended, no additional tuition or fees shall be required of the student on account of his suspension. In the event that a student who has not reached his eighteenth birthday is suspended or expelled, the President shall immediately notify his parent or guardian of the action by registered mail to the last known address, return receipt requested.

During periods of campus emergency, as determined by the President of the individual campus, the President may, after consultation with the Chancellor, place into immediate effect any emergency regulations, procedures, and other measures deemed necessary or appropriate to meet the emergency, safeguard persons and property, and maintain educational activities.

The following is extracted from Student Disciplinary Procedures of The California State University and Colleges, as revised by Executive Order No. 148, March 8, 1972:

The President may immediately impose an interim suspension in all cases in which there is reasonable cause to believe that such an immediate suspension is required in order to protect lives or property and to insure the maintenance of

order. A student so placed on interim suspension shall be given prompt notice of charges and the opportunity for a hearing within ten days of the imposition of interim suspension. During the period of interim suspension, the student shall not, without prior written permission of the President or his designated representative, enter any campus of The California State University and Colleges other than to attend the hearing. Violation of any condition of interim suspension shall be grounds for expulsion.

The university or college conducts all disciplinary procedures according to the policies of the Board of Trustees of The California State University and Colleges and adheres to Executive Order No. 148, Student Disciplinary Procedures of the California State University and Colleges, issued March 8, 1972.

The current University regulation on alcoholic beverages is stated in the "CSULB Policies, Information and Regulations" handbook published by the Office of Student Affairs.

Additional detailed information relating to conduct on campus is available in the Office of Student Affairs, and from the Office of the Vice President for Student Affairs.

Cheating and Plagiarism

California State University, Long Beach has adopted a policy on cheating and plagiarism.

Cheating is defined as the act of obtaining or attempting to obtain credit for work by the use of any dishonest, deceptive or fraudulent means. Examples of cheating would include, but not be limited to the following: copying, either in part or in whole, from another's test or examination; discussion of answers or ideas relating to the answers on an examination or test when such discussion is prohibited by the instructor; obtaining copies of an exam without the permission of the instructor; using notes, "cheat sheets", or otherwise utilizing information or devices not considered appropriate under the prescribed test conditions; plagiarism as defined; altering or interfering with the grading procedures; allowing someone other than the officially enrolled student to represent the same.

Plagiarism is defined as the act of taking ideas, words, or specific substance of another and offering them as one's own, without giving credit to the source. Such an act is not plagiarism if it reasonably appears that the thought or idea was arrived at through independent reasoning or logic or where the thought or idea is common knowledge. When sources are used, acknowledgement of the original author or source must be made through appropriate references, i.e., quotation marks, footnotes, etc. Examples of plagiarism include, but are not limited to, the following: the submission of a written work, either in part or in whole, completed by another; failure to give credit in a footnote for ideas, statements, facts or conclusions which rightfully belong to another; failure to use quotation marks when quoting directly from another, whether it be a paragraph, a sentence, or even a part thereof; close and lengthy paraphrasing of another's writing.

One or more of the following actions are available to the faculty member who suspects a student has been cheating or plagiarizing. These options may be taken by the faculty member to the extent that the faculty member considers the cheating or plagiarism to manifest the student's lack of scholarship or to reflect on the student's lack of academic performance in the course:

1. Review—no action

2. An oral reprimand with emphasis on counseling toward prevention of further occurrences
3. A requirement that the work be repeated
4. A reduction of the grade earned on the specific work in question
5. A reduction in the course grade as a result of Section 4. above
6. Referral to the Dean of Students' Office (see discussion above)

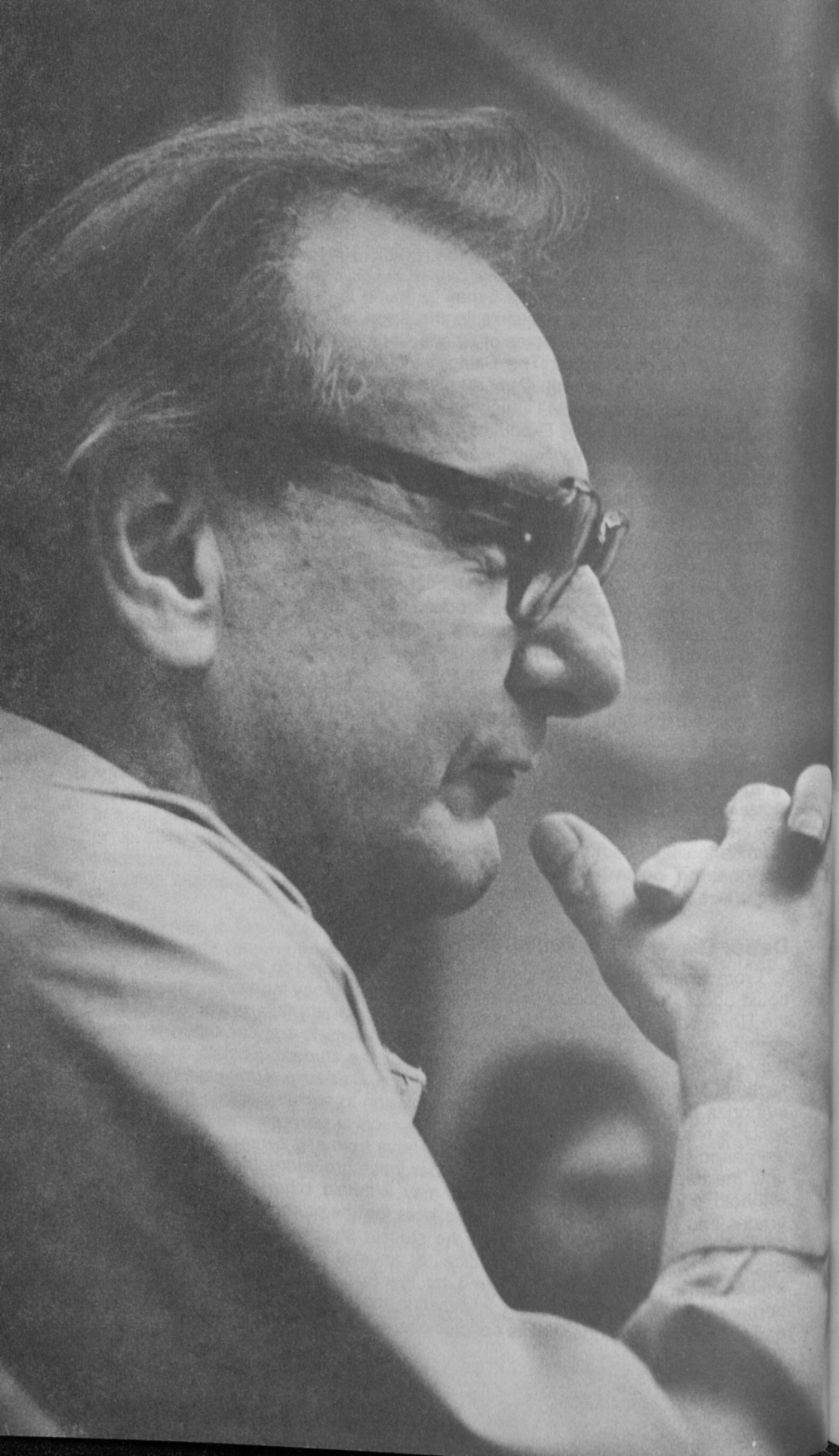
Sanctions from the Dean of Students' Office are pursuant to the authority provided in Section 41301 of Title 5 of the *California Administrative Code*. Copies of Section 41301 of Title 5 may be found in the *University Bulletin* and the *Campus Regulations*, available in the Dean of Students' Office, and the Office of Judicial Affairs. Copies of Chancellor's Executive Order 148, Student Disciplinary Procedures for The California State University and Colleges, are also available upon request. Opportunities for appeal regarding the sanctions from the Dean of Students' Office are provided for students involved in the proceedings as outlined by Executive Order 148.

In addition to the rights described elsewhere in the document, the student is entitled to the following as extracted in pertinent part: to receive notice of the nature of the charges and available evidence, via an informal office conference with the professor; where more than one person has been accused stemming from a common time and incident, to choose to have his case heard separately, or as a member of the group, and decisions rendered accordingly; to have the discussions and notes held confidential except as they may pertain to subsequent legal or administrative proceedings; to appeal relative to the course grade received; to have allegations brought within 120 calendar days of discovery of the possible cheating or plagiarism offense; and to be informed that the policy on cheating and plagiarism exists.

Copies of the entire document are available in every academic departmental office, and in the Office of Student Affairs.

Debts Owed to the University

From time to time the student may become indebted to the University. This could occur, for example, when the student fails to repay money borrowed from the University. Similarly, debts occur when the student fails to pay University, dormitory or library fees, or when the student fails to pay for other services provided by the University at the request of the student. Should this occur, sections 42380 and 42381 of Title 5 of the *California Administrative Code* authorize the University 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 University 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 University Business Office. The Business Office, or another office of the University to which the student may 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.



General Education

Rationale

Because students spend only a small percentage of their adult lives in formal and organized academic preparation, higher education can only be—at best—an introduction and an incentive to lifelong learning and to intelligent participation in society. With that in mind the University has sought to provide each student with an opportunity to participate in the following aspects of the learning adventure:

—Information: the raw material for thinking, analysis, reflection and discourse

—Methods of Inquiry: a training of the intellect in the varieties of methodology developed in the several discipline categories

—Basic Skills: the ability to analyze ideas and data, to relate these to other materials, to develop arguments at once logical and cogent, to reach conclusions, and to present the results of this process with clarity and style in a variety of communicative media

—Qualities of Mind: a respect for data and unpleasant facts; an appreciation for the arts; tolerance, commitment, a taste for learning; perpetual curiosity and a sensitivity to ethical considerations.

The academic major which each student selects provides training in depth within a single discipline. The provision in most majors for a number of free electives allows students to follow personal interests. Beyond these important aspects of every student's academic career lies *education for breadth*—the opportunity to explore other societies, their cultural variety, and the products of human thought and mechanical ingenuity; the chance to learn new analytical approaches and to evaluate other perspectives and problem-solving techniques; the promise of an introduction to new areas of knowledge and new career options. The general education requirement is the introductory phase of the breadth process.

Resources

To aid students in the process of developing a meaningful and integrative program in general education the University offers these further forms of assistance:

(1) Academic advisement including assistance with general education, throughout the year.

(2) A special listing, in the *Schedule of Classes,* of those courses which the faculty have identified as particularly appropriate for meeting the general education requirement in each category.

(3) An *Advising Section* in the *Schedule of Classes* with information and suggestions about how to maximize educational opportunities through general education and the wise use of electives.

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Requirements

The present policy of the Board of Trustees of The California State University and Colleges is that students graduating from any CSUC campus must fulfill certain breadth requirements. These minimum requirements consist of 40 semester units (60 quarter units) of courses approved by a campus for general education. At least 32 semester units must be taken in categories defined as natural science, social science, humanities and basic subjects, with at least two courses in each of those categories. Partial or full credit may be transferred from another institution; a community college may, for example, certify that a student has met all of these requirements.

Each campus in the CSUC system has the right to define which of its classes satisfy general education requirements, to determine which courses are transferable from other institutions (except where full credit has been certified), to add requirements which apply to native and transfer students alike, and to enact other limitations. At this University it is the policy that natural science shall include at least one laboratory course, that humanities shall include at least one course in the fine arts, and that basic subjects shall be interpreted as basic communications. In addition, this University has included within the 40 units of breadth requirement a Trustee requirement for competence in American history, government and Constitution; a campus requirement for one course in English composition; and an optional category which allows courses from any school or program on campus to qualify for general education.

Throughout, this University has tried to insure that each student has a great deal of freedom in choosing specific courses, though it is hoped that choices will be made on the basis of a well-thought-out plan which incorporates the principles set forth above. For students who wish to combine this requirement in a meaningful whole, various routes are available. The Liberal Studies core program satisfies all General Education requirements, as do selected courses in the General Honors Program. (See Special Programs for further information.)

Courses in academic programs which cross traditional disciplinary lines may be taken to meet appropriate category requirements. If an individual interdisciplinary course qualifies for credit in more than one category, a student may choose which requirement the course fulfills, provided that choice is made no later than the end of the semester preceding graduation.

All of these possibilities are subject to the following limitations. At least 32 of the 40 semester units must be chosen from Categories I through V. To satisfy the minimum 40 units of breadth requirement a student may not use more than 15 units in any single department or ethnic studies program, more than nine units in the category in which the student's major is listed, or any courses in the student's major department (with the exception of those courses required to satisfy Category V). There are, of course, no limits on what a student takes for breadth beyond the first 40 units, and it is the policy of the University to encourage students to broaden their education as much as possible.

The six categories recognized at California State University, Long Beach are defined as follows:

I. *Natural Science*—Two or more courses (totaling six or more units) in the Departments of Biology (which includes anatomy and physiology, biology, botany, entomology and zoology); Chemistry; Geology; Microbiology or Physics (which includes astronomy and physical science). At least one laboratory science course must be included.

Courses in departments, programs or areas, other than those specified above, which earn students credit in this category are expressly identified as carrying category I credit in this *Bulletin* and in the *Schedule of Classes*.

II. *Social Sciences*—Two or more courses (totaling six or more units) in the Departments of Anthropology, Economics, Geography, History, Political Science, Psychology, Social Welfare or Sociology or offered by the Center for Urban Studies, exclusive of any courses chosen to satisfy the requirements of U.S. History, Government and Constitution, included in category V.

Courses in departments, programs or areas, other than those specified above, which earn students credit in this category are expressly identified as carrying category II credit in this *Bulletin* and in the *Schedule of Classes*.

III. *Humanities*—Two or more courses (totaling six or more units). One of these must be either a philosophy course (offered by the Philosophy Department), a religious studies course (offered by the program of Religious Studies) or a literature course offered by one of the following departments: English, Comparative Literature, French-Italian, German, Russian and Classics or Spanish-Portuguese.

A second course in this category must be an appropriate course in one of the following departments: Art, Dance, Music or Theatre Arts. (The departments named will decide which of their courses are appropriate.)

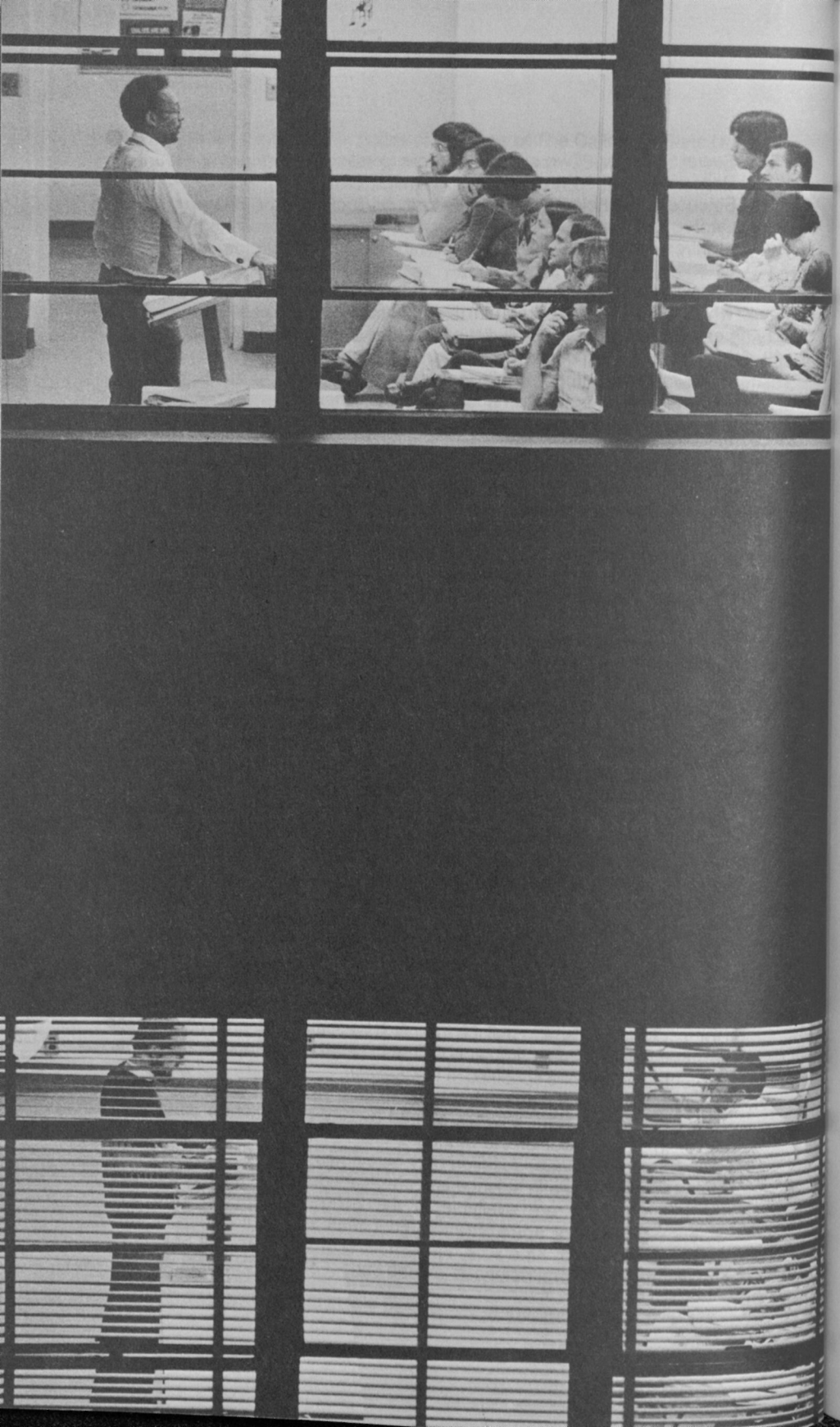
Courses in departments, programs or areas, other than those specified above, which earn students credit in this category are expressly identified as carrying category III credit in this *Bulletin* and in the *Schedule of Classes*.

IV. *Basic Communication*—Two or more courses (totaling six or more units) in English composition, foreign language (other than literature courses), journalism, mathematics, radio-television, speech communication or courses in statistics or computer language and applications selected from an approved list. No course meeting the requirement of any other General Education category may be used to meet this requirement.

Courses in departments, programs or areas, other than those specified above, which earn students credit in this category are expressly identified as carrying category IV credit in this *Bulletin* and in the *Schedule of Classes*.

V. *Special Subjects*—One course in United States history; one course in United States government and Constitution (Political Science Department); and one course in English composition. The student has the option of receiving credit by examination; departments will make such examinations available. A student who fails any such examination has the option of repeating the examination without penalty, or taking the course(s) which satisfy the requirement. A student who has met any of these requirements prior to enrollment at CSULB is exempt. Unit credit (to be included in the 40-unit general education requirement total and in the total number of units required for graduation, but not in the student's grade point average) shall be granted for satisfactory completion of examination in these subjects. Credit by examination, however, is subject to conditions specified in this *Bulletin*.

VI. *Optional Electives*—Within the total of 40 units required, up to eight units may be selected from courses offered by any departments other than those in the School of the student's major. However, units in health science and physical education may be elected under this option by all students except health science and physical education majors. Courses for this category are available in the School of Applied Arts and Sciences, Business Administration, Education and Engineering as well as in the School of Fine Arts, the School of Humanities, the School of Social and Behavioral Sciences and the School of Natural Sciences.



Baccalaureate Degrees

Baccalaureate Degree Requirements

All students seeking a baccalaureate degree must fulfill all of the following requirements:

1. General Education

Students in all major fields of study must complete a pattern of courses (40 units arrayed in various categories) to meet the general education requirement. Those students transferring from another college who have not yet completed the requirement should enroll in appropriate courses after consultation with an adviser.

For further information about general education see the preceding section.

2. Major

The total number of units and individual subjects required to satisfy specific majors are outlined in detail for the various areas of study. See page 105 for a list of majors.

3. Double Major

Although students may not work toward nor receive two degrees concurrently at CSULB, they may complete the requirements for a second major and have this fact noted on their transcript.

4. Additional Baccalaureate Degree

A student who wishes to pursue an additional baccalaureate degree and maintain undergraduate status may do so by completing a minimum of 30 units after graduation (24 of which must be in residence). The 30 units must include any deficiencies in the general education requirements then in effect and all of the courses for the new degree as specified by the department.

A second semester senior, with advance approval of the Scholastic Standards Committee, may earn a maximum of six units toward the additional degree. Any courses to be applied to the additional degree must be specified and taken in addition to those needed to satisfy the requirements of the previous degree.

5. Minors and Certificates

A minor is not generally required for the baccalaureate degree, but students may elect to complete one or more minors from those available and have that so noted on their transcript. A minor consists of a minimum of 18 units (as specified by the department or program) at least nine of which must be upper division. The minor may be in a single subject or interdisciplinary. No courses in the major department may be counted toward the minor. Courses outside the major department may count both toward the minor and toward requirements for the major. Students may elect to complete a certificate and it will be noted on their transcript. See page 000 for a list of minors and certificates.

6. Writing Skills Requirement

On May 26, 1976, the Board of Trustees approved a resolution requiring a demonstration of writing skills competency as a requirement for graduation. Students are advised to obtain further information from appropriate campus officials on currently available methods for meeting this requirement.

7. Requirements in United States History, Constitution and American Ideals

To qualify for graduation, all undergraduate students shall demonstrate competence in the Constitution of the United States; in American history, including the study of American institutions and ideals; and in the principles of State and local government established under the Constitution of this State. These requirements may be satisfied by passing a comprehensive examination on these fields prepared and administered by the University or by completing appropriate courses. Students should contact the Chairperson of the Department of Political Science or the Chairperson of the Department of History.

8. Units

A total of 124 units is required for the bachelor of arts and the bachelor of vocational education degrees which must include a minimum of 40 units of upper division work (courses numbered 300 or above).

The bachelor of science degree, which requires from 124 to 132 units, is designed for curricula where a more intensive major field of study is considered a requisite background for vocational competence. The total number of units and individual subjects required to satisfy specific majors in those areas where this degree is offered are outlined in detail for the offerings of the academic divisions. Otherwise, all requirements for the bachelor of science degree are identical with those for the bachelor of arts degree.

A total of 132 units is required for the bachelor of music degree which must include a minimum of 40 units of upper division work.

9. Extension Units

A maximum of 24 semester units of extension and correspondence credit may be accepted toward the baccalaureate degree. Such credit must be accepted for degree purposes by the institution in which the work was taken.

Extension work taken at this University may not be used to meet the 30-unit residence requirement.

10. Activity Units

Activity courses are those which provide practice in such areas as music, speech, theatre arts, and physical education. Within the 124-unit requirement, a student may earn credit of not more than eight units in activity courses in any one area, nor more than 20 units in activity courses in all areas.

11. Scholarship

The minimum scholarship requirement for the bachelor's degree is a grade point average of 2.0 (C) in all units attempted at the University, as well as a 2.0 (C) average on the student's entire college record. For graduation, a student shall also attain:

1. A 2.0 (C) average in all courses in the major.
2. A 2.0 (C) average in all courses in the major completed at the University.
3. A 2.0 (C) average in all upper division courses in the major completed at the University.

Students who plan to pursue teacher education programs should recognize that the academic scholarship requirement for certain credentials is a minimum grade of C or better in specified courses and an overall grade point average of 2.5 (C plus). Students on academic probation at the University are not permitted to enroll in education classes.

12. Residence

Except as otherwise provided in this section, 30 semester units shall be earned in residence in the University. Twenty-four of these units shall be earned in upper division courses and 12 of the units shall be in the major.

Extension credit or credit by evaluation shall not be used to fulfill any requirement prescribed by this section; provided, however, that the Chancellor may designate specified extension courses that may be offered for residence credit and may establish policies and procedures under which residence credit may be earned by evaluation.

When the circumstances of an individual case make it appropriate, the appropriate campus authority may authorize the substitution of credit earned at other campuses or institutions for residence credit.

13. Faculty Approval

Proficiency of a student in any and all parts of a curriculum is properly ascertained by the faculty of the University. A favorable vote of the faculty shall be required to make a student eligible to receive a degree.

14. Election of Regulations for Degree Requirements

A student remaining in continuous attendance and continuing in the same curriculum in the University may elect to meet the graduation requirements in effect either at the time of entering the University or at the time of graduation therefrom, except that substitutions for discontinued courses may be authorized or required by the proper University authorities.

The term "continuous attendance" means attendance for a regular academic year, except where such attendance is interrupted by illness or by military service.

Failure to remain in continuous attendance will mean that the student must meet the regulations current at the time of resuming the degree program, or those applicable at the time of graduation. A change in the major for the degree automatically carries with such a change the acceptance of the current regulations pertaining to the new course of studies.

Graduation with Honors

The following criteria shall apply for graduation with honors beginning in the 1977-78 academic year:

I. Two University categories shall be identified for honors:
   a. Students with GPA between 3.50 and 3.74 will be graduated *with distinction.*
   b. Those between 3.75 and 4.00 will be graduated *with great distinction.*

II. A student may be considered eligible for honors at graduation provided that a minimum of 45 units are earned at California State University, Long Beach. The GPA will be determined from units earned at CSULB plus transferred units.

III. With the approval of the Dean of the School, Departments may elect to honor as many as three of their graduates according to criteria other than GPA.

IV. University honors will be noted on the transcript and the diploma; Department honors will also be noted provided that the Department advises the Admissions and Records Office by the last official day of the semester or session.

Honor Lists

Undergraduate students exhibiting outstanding scholastic achievement are honored by being included on the President's or Deans' Honor List. Certificates are awarded once a year after the spring semester. Full-time undergraduate students who have completed 12 or more units each semester during the current academic year are considered. Those with a GPA of 3.50 to 4.00 for the current academic year are included on the President's List, those with a GPA of 3.00 to 3.49 are recognized by the Dean of the School in which the student is a major. Certificates for undeclared majors are sent by the Office of the Vice President for Student Affairs. Questions concerning eligibility for these lists should be directed to the Admissions and Records Office.

The University has created the Graduate Dean's List of University Scholars and Artists to recognize the top students among its graduate enrollment.

Nominees are selected annually by the Schools of Applied Arts and Sciences, Business Administration, Education, Engineering, Fine Arts, Humanities, Social and Behavioral Sciences and Natural Sciences. The number considered from each school does not exceed one percent of the school's graduate student population.

Phi Beta Kappa

Phi Beta Kappa, founded at the College of William and Mary in 1776, is the oldest and most prestigious honor society for students of the liberal arts and sciences. Pursuant upon action taken by the United Chapters of Phi Beta Kappa exactly two hundred years after the original foundation, a chapter was established at California State University, Long Beach in 1977.

Graduating seniors are elected to membership in Phi Beta Kappa on the basis of extraordinary scholarly performance at this University, after detailed study of their records by faculty members who are themselves members of Phi Beta Kappa. No specific action on the part of the student is necessary to initiate consideration. However, students interested in qualifying should note the following minimum requirements:

1) Evidence of broad cultural interests, scholarly achievement, and good character.
2) Residence at CSULB for at least four full semesters (60 units) at the time of graduation.
3) A major in one of the liberal arts or sciences, with at least 90 semester hours of credit in liberal subjects. (There are minor exceptions to this rule.)
4) A grade-point average of 3.70 or more in courses taken at this university, with no more than 10 units taken on a CR/NC or similar basis. (There are minor exceptions to this rule.)
5) A knowledge of mathematics at least minimally appropriate to a liberal education. This requirement will normally be interpreted to mean satisfactory completion of course work through Mathematics 115B, 115S, or 122, or their equivalent.
6) A knowledge of a foreign language at least minimally appropriate to a liberal education. This requirement will normally be interpreted to mean satisfactory completion of eight units of foreign language instruction at the college level, or its equivalent.

Inquiries should be directed to the President of the University chapter of Phi Beta Kappa, Dr. Lawrence S. Lerner.

Baccalaureate Degrees

Bachelor of Arts Degree

The University is authorized to grant the bachelor of arts degree with majors in the following fields of study:

American Studies
Anthropology
Art
Biology
Black Studies
Chemistry
Communicative Disorders
Dance
Comparative Literature
Economics
English
Entomology
French
Geography
German
History
Home Economics
Industrial Arts
Journalism
Liberal Studies
Mathematics
Mexican American Studies
Music
Philosophy
Physical Education
Physics
Political Science
Psychology
Radio-Television
Recreation
Religious Studies
Russian
Social Welfare
Sociology
Spanish
Special Major
Speech Communication
Theatre Arts

Bachelor or Fine Arts Degree in Art

Bachelor of Music Degree

Bachelor of Science Degree

The University is authorized to grant the bachelor of science degree with majors in the following fields of study:

Botany
Chemical Engineering
Chemistry
Criminal Justice
Dietetics and Food Administration
Earth Science
Geology
Health Science
Industrial Design
Industrial Technology
Marine Biology
Microbiology
Nursing
Physical Therapy
Physics
Zoology

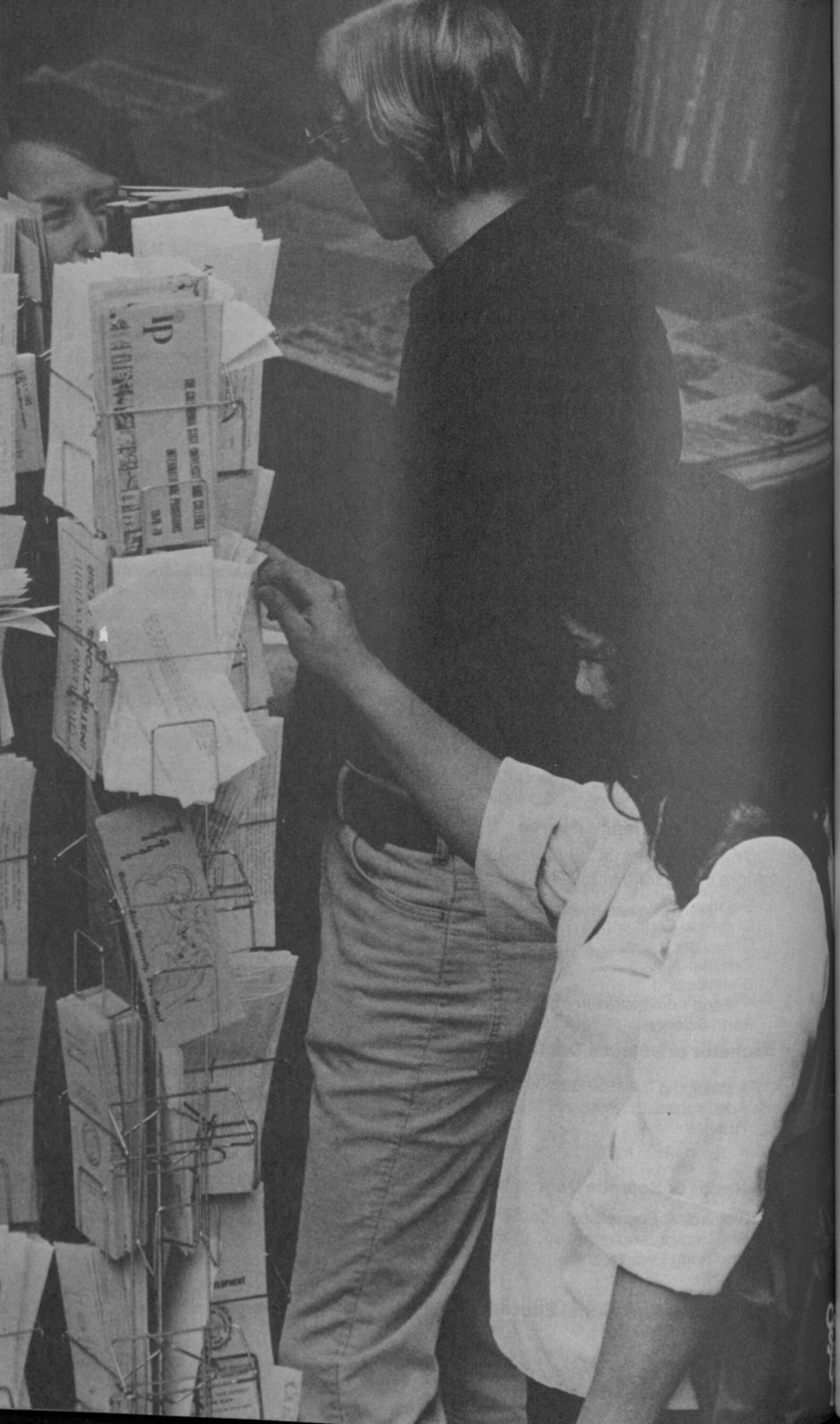
Bachelor of Science Degree in Business Administration

Accounting
Administrative Systems
Finance
Management
Manpower Management
Marketing
Operations Management
Quantitative Methods

Bachelor of Science Degree in Engineering

Biomedical Engineering
Civil Engineering
Computer Engineering
Electrical Engineering
Materials Management
Industrial Management
Mechanical Engineering
Ocean Engineering

Bachelor of Vocational Education Degree



Classification and Designation of Courses

Unit of Credit

The unit of credit is the semester unit and the value for each course is indicated in parentheses following the title. In typical lecture and discussion courses, the number of units indicates the number of class hours per week. Activity courses, laboratory courses, and some lecture and discussion courses require class hours weekly in excess of the number of units of credit specified, as indicated in the *Schedule of Classes* published for each session. Summer session classes normally require the same number of class hours of instruction per session as are required in regular semester terms for courses having the same unit value.

Course Numbers and Classification

Lower division courses carry numbers 100-299. Such courses are open to freshmen and sophomores and are primarily designed to provide much of that breadth of understanding known as general education as well as the foundations for the generally more specialized work of the third and fourth years. All such courses are open to upper division and graduate students, but do not count as upper division or graduate work in any curriculum.

Certain courses with a first digit of zero carry no unit credit.

Upper division courses carry numbers 300-499. Such a course in any area is open to those students who have completed a lower division course, or courses, in the area; except in those cases in which the subject is of such nature that an elementary course demands the maturity of the upper division student, in which case upper division status becomes the prerequisite.

Enrollment of a lower division student in an upper division course requires the approval of the department concerned except where prerequisites have been satisfied and enrollment in upper division courses is necessary to complete the pattern and sequence of the degree major.

Graduate Credit in Senior Year

Graduate credit normally may not be earned in advance of the baccalaureate degree. However, based upon faculty recommendation, academic performance (normally a grade point average of 2.75 overall and a 3.0 (B) in the major), and promise of academic achievement in post graduate study, a second semester senior may be granted approval to earn a maximum of six units of upper division course work to be applied as post graduate credit. A petition to do so must be filed with the school graduate advisers or associate deans of graduate study in the Schools of Applied Arts and Sciences, Business Administration, Education or Engineering, prior to the beginning of the last semester of the senior year. Until the Schools of Fine Arts, Humanities, Natural Sciences and Social and Behavioral Sciences obtain graduate accountability, the dean of graduate studies will continue to process all such petitions after referral for recommendations to the graduate adviser in the academic area concerned. In those areas where graduate credit is for the credential only, such petition must be filed with the associate dean of professional programs and services in the School of Education. A copy of the approval specifying the course(s) is to be forwarded to the registrar. Any course to be applied as graduate credit must be specified and must be taken in addition to those needed to satisfy the bachelor's degree

requirements. Any change in the degree or credential objective carries with it the requirement that any course so taken be reviewed for applicability to the new objectives.

Graduate level courses (500 and 600), listed without descriptions, are not open to students without an acceptable baccalaureate degree, but a senior with an overall grade point average of "B" or better may, under very special conditions and only with the prior permission of the instructor, the recommendation of his department and the approval of the dean of graduate studies, enroll in a course in the 500 to 599 series. However, graduate courses completed before the attainment of a bachelor's degree under these conditions will not be accepted as partial fulfillment of minimum requirements in the 500-600 series for the master's degree. Courses on the 600 level are only open to graduate students who have already attained an acceptable baccalaureate degree.

Experimental Courses Program

The Experimental Courses Program is designed to encourage educational innovation and experimentation by freeing a limited number of course offerings from the standard rules and procedures. By the program the University hopes to permit a more flexible and rapid response to new situations, ideas and needs, and to encourage new departures in methods of instruction, interdisciplinary learning, unit allocations, scheduling, faculty assignments and student-instructor relationships.

Courses will be found in the *Schedule of Classes* and will be identified with an "E" after the course number in each case.

The student shall be permitted to count no more than 12 units of experimental course credit in the total of 124 for graduation. Classes taken as experimental which have subsequently been approved as regular curricular offerings will be excluded from this limitation, if in the transition from experimental to regular course status there has been no change in content, method of instruction or unit value, as determined by the curriculum committee of the appropriate school. Whether a particular experimental course may or may not be used to fulfill General Education requirements or requirements for majors, minors or credential sequences will depend upon the decision of the appropriate agency in each case. Students planning to enroll in experimental courses should ascertain in advance the requirements which the course may be used to meet. Students should be advised that experimental courses may not be accepted by other institutions for transfer credit.

Graduate students may be given graduate credit for upper division experimental courses. However, no experimental courses shall be applicable to the master's degree program unless approved for inclusion in the University Bulletin prior to the date of the student's graduation.

A maximum of 12 units of experimental courses may apply toward the five-year credential program, of which not more than six upper division units may be allowed for graduate students toward the 30-unit fifth-year program.

Experimental courses may be suggested by student organizations or groups, or by the faculty acting individually or in groups or in their administrative capacity. They must be endorsed by departments and have approval of the dean or curriculum committee of the appropriate school or, in the case of interdisciplinary courses, by a school or joint agency appointed by the deans of the several schools involved. The endorsing agency is responsible for the supervision and evaluation of its segment of the program. Courses may be offered with experimental designations for a maximum of three years after which, on the basis of evaluation, they must either be dropped or proposed for incorporation in the regular curriculum of the University.

Course Listings

Courses are listed as follows: number, title, semester units (in parentheses), session offered and faculty normally teaching the course. F indicates Fall Session; S indicates Spring Session and SS indicates Summer Session. Many of the courses offered during the fall and spring semesters are offered during the summer. The Summer Session *Schedule of Classes* should be consulted to determine the particular offering. Courses offered during the summer session only are indicated in this *Bulletin.* Courses offered only in alternate years are so designated. Included with some of the course numbers is a supplementary letter, such as L for laboratory designation or A and B for year sequence. A-B means that the courses must be taken in sequence but if only one semester's work is completed, the student is allowed credit for that semester. A,B designates related courses which need not be taken in sequence and if only one semester's work is completed, the student is given credit for that semester. The University reserves the right to make changes in course offerings without notice.

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School of Applied Arts and Sciences

Administrative Officers

Dr. C. Thomas Dean	Dean of the School	IA2-100
Dr. John J. McConnell	Associate Dean, Academic Affairs	IA1-101
Dr. Floyd M. Grainge	Associate Dean, Fiscal Affairs	IA1-101
Dr. Dorothy L. Fornia	Director, Graduate Studies and Research	P.E. 326

Directory of Departments

Department	*Chair*	*Dept. Offices*
Criminal Justice	Dr. Gary B. Adams	Soc. Sci. 162
Health Science	Dr. Peter A. Cortese	P.E. 215
Home Economics	Mrs. Mabel S. Moore	Home Ec. 004
Industrial Education	Dr. Leonard Torres	IT 101
Industrial Technology	Dr. Glenn E. Hayes	IT 101
Nursing	Dr. Joan Cobin	Nursing 19
Physical Education	Dr. Marguerite A. Clifton	P.E. 201
Physical Therapy	Dr. Frank J. Bok	P.E. 212
Recreation and Leisure Studies	Dr. Marilyn A. Jensen	P.E. 218

Other School Offices

Facilities Coordinator	Mr. William R. Bovee	P.E. 326
Director of Center for Criminal Justice	Dr. Harold K. Becker	Soc. Sci. 138
Director of Center for Career Studies	Dr. Norman R. Stanger	IT 218
Gerontology	Dr. Dorothy Fornia	P.E. 326
Health Care Administration	Dr. Robert Tumelty	
Vocational Education	Dr. Norman R. Stranger	IT 218

Criminal Justice

Department Chair: Dr. Gary B. Adams.

Professors: Becker, Germann, Guthrie, Kenney, Whisenand.

Associate Professors: Adams, Good, Hails.

Assistant Professors: Grencik, Rush.

Academic Advising Coordinator: Dr. George E. Rush.

The program in criminal justice offers the bachelor of science degree to the man or woman seeking a comprehensive education enroute to a professional career. The program is designed to accommodate the needs of the continuing student, the transfer student and the experienced criminal justice practitioner.

Four options are available: corrections, criminalistics, law enforcement and security administration.

Note: Students Intending to Transfer from Community College.

Students intending to transfer from community colleges to this University to continue work for a bachelor of science degree in criminal justice are advised to complete general education requirements while attending the community college.

A total of 24 units of lower division criminal justice (police science) courses are acceptable for transfer as general elective units. It should be understood that these units will not satisfy upper division major requirements.

Note: Students Not Currently Employed in the Field.

Students hopeful of entering the criminal justice field should ascertain the requirements for any particular agency. Specific requirements and candidate screening are not available through the Criminal Justice Department.

Major in Criminal Justice for the Bachelor of Science Degree

Law Enforcement Option (code 3-1036)

Upper Division: Criminal Justice 301, 350, 403, 495 (students currently working for a law enforcement agency will be required to substitute three units of Criminal Justice 490, Independent Study); six units selected from Criminal Justice 303, 315, 324, 376, 404, 481, 499; nine units selected from Criminal Justice 325, 361, 421, 422, 482, 485; and completion of the following: Criminal Justice 351, 355, 357.

Supporting Courses: Complete a minimum of 12 units of upper division social science courses (taken outside the Department of Criminal Justice) supporting major objectives. Courses are to be selected in consultation with a criminal justice adviser.

Corrections Option (code 3-1032)

Upper Division: Criminal Justice 301, 350, 403, 495 (students currently working in a correctional setting will be required to substitute three units of Criminal Justice 490, Independent Study); nine units selected from Criminal Justice 303, 315, 324, 376, 404, 481, 499; nine units selected from Criminal Justice 358, 365, 383, 469, 470; and three additional units of Criminal Justice electives.

Supporting Courses: Complete a minimum of 12 units of upper division social science courses (taken outside the Department of Criminal Justice) supporting major objectives. Courses are to be selected in consultation with a criminal justice adviser.

Criminalistics Option (code 3-1034)

Lower Division: Chemistry 111A-B, 251, 251L; Physics 100A-B; Mathematics 115 and one of the following: Biology 207, 210, 212 or Microbiology 210.

Upper Division: Criminal Justice 301, 311, 312, 350, 355, 403, 411, 495 (students currently working in a criminalistics laboratory will be required to substitute three units of Criminal Justice 490, Independent Study); Chemistry 321A-B, 451.

Security Administration Option (code 3-1038)

Upper Division: Criminal Justice 301, 331, 350, 403, 431, 435, 437, 495 (students currently employed in the area of security administration will be required to substitute three units of Criminal Justice 490, Independent Study); six units selected from Criminal Justice 325, 361, 421, 422, 482, 485, 499; and six units selected from Criminal Justice 351, 355, 357.

Supporting Courses: Complete a minimum of 12 units of upper division social science courses (taken outside the Department of Criminal Justice) supporting major objectives. Courses are to be selected in consultation with a criminal justice adviser.

Administration Option (code 3-1355)

Upper Division: Criminal Justice 301, 350, 403, 495 (students currently employed in the area of administration will be required to substitute three units of Criminal Justice 490, Independent Study); nine units selected from Criminal Justice 303, 315, 324, 376, 404, 481, 499; 12 units selected from Criminal Justice 325, 365, 421, 422, 482, 485.

Supporting Courses: Complete a minimum of 12 units of upper division social science courses (taken outside the Department of Criminal Justice) supporting major objectives. Other courses are to be selected in consultation with a criminal justice adviser.

Master of Science Degree in Criminal Justice

A program of study leading to the master of science degree in criminal justice is offered. For detailed information concerning requirements see the *Graduate Bulletin.*

General

301. Concepts and Issues of Criminal Justice (3) F, S Germann, Rush
Criminal justice studied as a total interacting system: police, corrections, parole, probation and the judiciary.

303. Basic Statistics in Criminal Justice (3) F, S Halls
Prerequisite: Consent of instructor. Description and analysis of research methods used in law enforcement, courts, probation and parole and correctional institutions. Calculation, interpretation and applicability of special techniques to the fields of criminal justice.

315. Organization Theory and Behavior (3) F, S Adams, Whisenand
Functional and structural approaches. Behavioral approach to the study of criminal justice administration. Organization and the individual; decision making and organization development. Not open to students with credit in Criminal Justice 321 or 322.

324. Criminal Justice: Personnel Supervision and Development (3) F, S Adams, Good
Techniques of supervision; problems of policy and procedure; field problems; instructional and disciplinary methods; motivation; supervisory investigations and reports; performance rating.

376. Criminal Justice Planning (3) F, S Faculty
Examination of crime-oriented planning. Apprehension, adjudication, custody and supervision. Basic planning strategies and practical considerations for implementation.

403. Criminal Justice: Ecology and Etiology (3) F, S Grencik
Social, political, economic, religious and emotional characteristics of criminal justice problems; historical perspectives. Objectives and methods of social control by individuals and institutions.

404. Behavioral Aspects of Criminal Justice (3) F, S Faculty
The criminal justice system is examined from a psychological-behavioral viewpoint. The interaction of various offender types and the problems developed by them are explored.

421. Specialized Problems in Criminal Justice Administration (3) F, S Becker
Policy and procedure in specialized situations; labor-management disputes; minority group relations; crowd, public gathering, mob and riot control; mental cases; subversives; civil defense and disaster planning. Special problems involved in licensing, inspections, animal regulation, ambulance service and other specially assigned police activities. Integration of public safety functions. Problems of organized crime.

424. Advanced Supervision and Executive Development in Criminal Justice (3) On demand Faculty
Prerequisite: Criminal Justice 324. Behavioral science approach to supervision in criminal justice. Includes sensitivity training, individual and group interview rehearsals and group dynamics.

490. Independent Study (1-3) F, S Faculty
Prerequisite: Consent of instructor. Individual research and study approved by major professor. May be repeated for credit not to exceed a total of 3 units.

495. Internship (3) F, S Faculty
Prerequisite: Consent of instructor. Supervised work experience in criminal justice agency in the immediate area. May be repeated for a maximum of six units. (Not open to employed criminal justice officials.)

496. Internship (6) F, S Faculty
Prerequisite: Consent of instructor. Supervised work experience in criminal justice agency in the immediate area. (Not open to employed criminal justice officials nor students with credit in Criminal Justice 495.)

499. Special Topics in Criminal Justice (3) F, S Faculty
Prerequisite: Consent of instructor. Topics of current interest in the field of criminal justice selected for intensive development. Topics are announced in the *Schedule of Classes*. May be repeated for a maximum of six units.

Law Enforcement

325. Police Administration (3) F, S Kenney
Prerequisite: Criminal Justice 315, 321 or 322. Program approach to the study of police administration. Overview of administration of the police function in the United States. Organization, management and operation of policing agencies.

361. Investigation and Theories in Field Policing (3) F, S Good
Examination of the investigative process throughout the criminal justice system. Includes procedures involving the decision to invoke the criminal justice process; disposition of offenders; socio-psychological aspects; the role of training; application of science and technology to operational problems. Not open to students with credit in Criminology 271 or 371.

422. Comparative Police Administration (3) F, S Becker
Survey of nationwide and worldwide police philosophy and technique. Evaluation of current major hypotheses; review of recent developments and contributions by agencies and academic institutions; review of current literature in the field.

481. Police-Community Relations (3) F, S Faculty
Individual and group study of relationships between law enforcement agencies and the public. Exploration of areas of conflict and cooperation.

482. Crime, Police and the Political Process (3) On demand Guthrie
Crimino-political power; relationships between specific organized crimes and political entities; political functions of criminal groups; the police as a political instrumentality.

485. The Role of Police in Society (3) On demand Germann, Kenney
Historical development of the police as an institution for social control; policing in urban and rural areas; political and socio-economic factors affecting the changing role of police in modern society.

Legal

350. General Survey of Law (3) F, S Halls
Philosophy and history of criminal law within our legal system; structure of court system and proposed revisions; survey of criminal liabilities and safeguards within U.S. Constitutional and evidentiary rules.

351. Criminalization and Substantive Criminal Law (3) F, S Halls
Jurisprudential philosophy and case study of common law and statutory crimes; includes functions and development of substantive criminal law; elements of criminal liability; specific crimes and defenses.

355. Evidentiary Issues in the Legal Process (3) F, S Faculty
Issues and problems of proof in civil and criminal trials; admissibility; examining witnesses; constitution consideration and exclusionary rules.

357. Procedural Aspects of the Legal Process (3) F, S Faculty
Criminal analysis of prosecution; constitutional limitations from arrest to release; trends in the administration of criminal justice; legal restraints on police; relation between state and federal criminal authority.

359. Drug Abuse and the Law (3) S Faculty
Various drug abuses from a historical, sociological, psychological and legal perspective. The legal relationship of drug abuse to law enforcement and the criminal justice system, with legal sanctions, is explored; implications of and alternatives to the criminal sanctions are developed.

Corrections

354. Legal Aspects of Corrections (3) F, S Faculty
Historical, sociological and philosophical development of sanctions imposed upon the convicted offender. Statutory laws with Constitutional interpretations as they affect and implement the specialized areas of probations, parole and correctional institutions will be explored.

358. Legal Rights of the Convicted Offender (3) S Faculty
Emerging rights of the convicted offender are explored with focus upon Constitutional guarantees, appellate courts' decisions and their impact upon administration.

365. Correctional Administrative Behavior (3) F, S Faculty
Prerequisite: Criminal Justice 315, 321 or 322. Program approach to the study of correctional administration. Overview of the administration of the correctional function within the United States. Organization, management and operation of correctional agencies. Not open to students with credit in Criminal Justice 483.

383. Correctional Counseling (3) F, S Grencik
Theories and techniques of counseling useful to the corrections counselor. Includes abnormal reactions with appropriate responses, crisis intervention, community mental health and the use of mental health reports.

469. Correctional Environments (3) S Faculty
Forces and stress produced by correctional environments will be examined from a total institution perspective. Field trips to both adult and juvenile institutions will be required.

470. Alternatives to Incarceration (3) F Faculty
Historical and philosophical overview of the theory and theories behind diversion from the criminal justice system; the legal framework; critical appraisal of impact of alternative community treatment programs; analysis and evaluation upon the correctional process.

Criminalistics and Industrial Security

311. Basic Criminalistics (3) F, S Faculty
Broad survey of the relationship between the physical sciences and the administration of criminal justice. Concepts of identifications and their application to various types of physical evidence which involve chemical and physical analysis, and mechanical or physical comparison. (Lecture 3 hours.)

312. Intermediate Criminalistics (3) F, S Faculty
Prerequisite: Criminal Justice 311. Applications of comparative microscopy, serology, spectrography, chemical and microchemical techniques to fibers, hairs, poisons, textiles, stains, dust, dirt and debris. Chemical tests for intoxication and narcotic addiction. Examination of questioned documents and the instrumental detection of deception. (Lecture 2 hours, laboratory 3 hours.)

331. Introduction to Industrial Security (3) F Faculty
Historical, philosophical and legal basis of security; role of security in modern industrial society; administrative, personnel and physical aspects of the security field.

411. Advanced Criminalistics (3) On demand Faculty
Crime laboratory organization and management. Training of laboratory personnel. Transportation, storage and security of physical evidence. Preparation of courtroom exhibits. Use and care of special equipment such as X-ray and photospectrometer. Special problems of identification and classification. (Lecture 2 hours, laboratory 3 hours.)

431. Industrial Security Administration (3) S Faculty
Organization and management of industrial security and plant protection units. Security, police, administrative, legal and technical problems. Special problems of government contract security. Specialized programs in retail security, insurance and credit investigation, transportation security and private guard and alarm services.

435. Physical Security (3) S Faculty
Protection of industrial, business and governmental facilities. Physical security requirements and standards.

437. Special Problems in Industrial Security (3) F Faculty
Theft control, shoplifting, document control, subversion and sabotage, civil disturbances, business espionage, labor problems, white-collar crime and natural disasters. Legal aspects. Illegal political activities.

Graduate Division

512. Problems in Urban Criminal Justice (3)

521. Criminal Justice Administration (3)

541. Correctional Counseling and Case Management (3)

551. Criminal Justice Legal Systems (3)

581. Theories of Crime Causation and Prevention (3)

599. Criminal Justice (3)

621. Seminar in Criminal Justice Administration (3)

622. Seminar in Administration of Criminal Justice Information Systems (3)

623. Seminar in Comparative Criminal Justice Administration (3)

624. Seminar in Criminal Justice Problems (3)

640. Seminar in Police Administration (3)

641. Seminar in Correctional Administration (3)

650. Seminar in Juvenile Justice (3)

690. Seminar in Criminal Justice Program Evaluation (3)

696. Research Methodology (3)

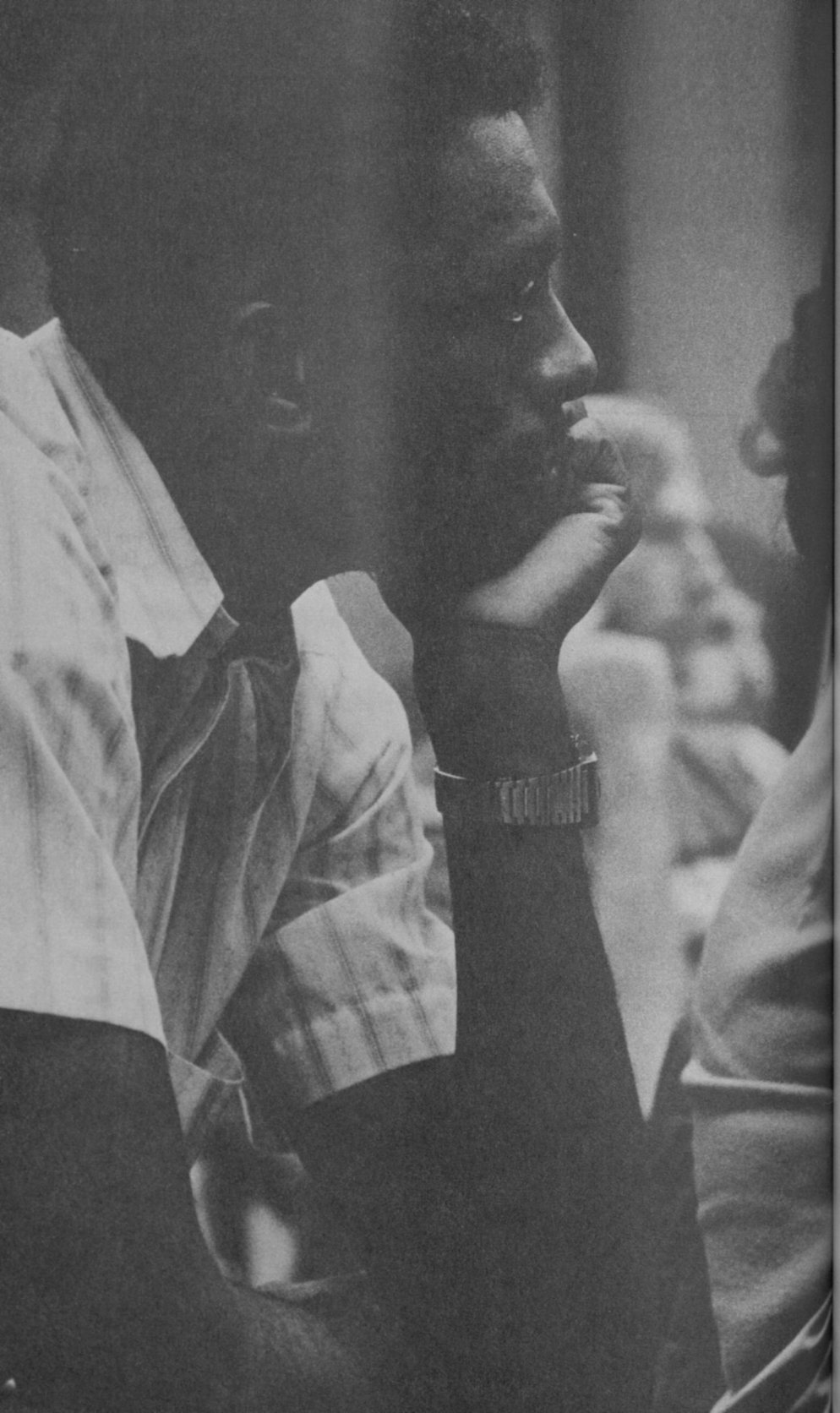
697. Directed Research (1-3)

698. Thesis (1-4)

699. Integrated Analysis of Criminal Justice (3)

Gerontology

400. Perspectives on Gerontology (3) F,S Faculty
Multidisciplinary presentation of the scientific and social issues in aging, (A) biophysical, (B) psychological perspectives, and (C) sociological concepts.



Health Care Administration

Courses in health care administration are designed for the professional preparation and upgrading of administrators or those who wish to become administrators within a health care setting.

Upper Division

400. Introduction to the Health Care System (3) F, S Faculty
Introduction to the contemporary health care system to include its historical beginnings and the underlying social and biological forces which influence its organizational forms, financing and manpower requirements; issues and concerns molding its future such as the assurance of the quality of patient care and the regulation and control of the system.

490. Special Topics in Health Care Administration (1-3) F, S Faculty
Topics of special interest in health care administration selected for intensive study. Topics will be announced in the *Schedule of Classes*. May be repeated with different topics to a maximum of six units.

499. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Independent study of special topics under supervision of a faculty member. May be repeated to a maximum of four units. In exceptional cases, may be repeated to a maximum of six units when approved by the Center for Health Manpower Education Director.

Graduate Division

630. Seminar in Health Care Administration (3)

Health Science

Department Chair: Dr. Peter A. Cortese.

Professors: Beegle, Kaywood, Pollock, Torney.

Associate Professors: Campbell, Cortese, Irwin, Lussier, Probst.

Assistant Professor: Burhans.

Credential Adviser (Health Science): Dr. Peter A. Cortese.

Credential Adviser (Safety Education): Dr. Richard Kaywood.

Academic Advising Coordinators:
Health Science: Dr. Peter A. Cortese.
Safety Education: Dr. Richard Kaywood, Mr. Alan Probst.

Courses are designed to satisfy health science requirements for (1) general education, (2) the baccalaureate degree major, (3) Single Subject Credential in Physical Education with an emphasis in School Health, (4) the designated subjects credential in driver education.

There are three specialization options for students seeking a baccalaureate degree in health science. The school health option is designed for persons who desire to pursue a professional preparation program leading to qualification as a health science teacher in the secondary schools. The Single Subject Credential in Physical Education with an emphasis in School Health prepares one to teach in both areas at the secondary level. The option in community health education is designed for persons whose occupational objective is to serve as community health educator with an official or voluntary health agency. The traffic safety option represents a comprehensive specialized program to prepare traffic safety specialists for education, industry, government and various safety-oriented public and private organizations. The designated subjects credential in driver education prepares one to teach all phases of driver education in the public schools.

Major in Health Science for the Bachelor of Science Degree

School Health Option (code 3-1215)

Lower Division: Biology 200, 202, 204, 207; Chemistry 200; Microbiology 100, 101; Psychology 100; Safety Education 220 or 330.

Upper Division: Health Science 300, 320 or 420, 321 or 322, 325, 327, 421, 430, 440; Home Economics 430; Psychology 351 or 370.

Community Health Education Option (code 3-1213)

Lower Division: Anthropology 120; Biology 107, 200, 204; Chemistry 200; Microbiology 100, 101; Psychology 100; Safety Education 220; Sociology 142.

Upper Division: Health Science 300, 400, 401, 430, 485; three courses selected from the following: Health Science 321, 322, 325, 327, 420; one course selected from the following: Psychology 351, Sociology 335; one course selected from the following: Sociology 336, 410, 445; one course selected from the following: Speech 330, 334, 335.

Traffic Safety Option (code 3-1214)

Lower Division: Industrial Arts 161; Physical Education 230; Safety Education 220; Physics 100A or 104; Psychology 100.

Upper Division: Civil Engineering 429; Instructional Media 300; Educational Psychology 305; Health Science 327, 421; Safety Education 321, 321L, 422, 422L, 423, 423L, 425, 460; 15 units selected from the following: Educational Psychology 350, Instructional Media 301, Psychology 351, Safety Education 330, 335, 490, 499.

Single Subject Credential in Physical Education with an emphasis in School Health

Requirements include a bachelor of science degree in health science (school health option) plus 23-25 units in physical education and the required professional education courses. See the physical education credential adviser.

Designated Subjects Credential in Driver Education

Student must be working on or have earned a baccalaureate degree plus have an acceptable driving record for the preceding three years. Required courses: Safety Education 220, 321, 321L, 422, 422L, 423, 423L, 460.

Minor in Health Science (code 0-1211)

A minimum of 23 units which must include:

Lower Division: Microbiology 101.

Upper Division: Health Science 321 or 322, 325, 327, 430, 440; Home Economics 430; Safety Education 330.

Minor in Safety Education (code 0-1212)

A minimum of 20 units which must include:

Lower Division: Physical Education 230; Safety Education 220.

Upper Division: Industrial Technology 307; Safety Education 321, 321L, 422, 422L, 423, 423L; 7 units of electives selected from the following: P.E. 248, Health Science 327, C.E. 429, Safety Education 335, Industrial Arts 161.

Master of Science Degree in Health Science

A program of study leading to the master of science degree in health science is offered. For detailed information concerning the requirements see the *Graduate Bulletin*.

Lower Division

210. Contemporary Health Problems (3) F, S Irwin
Development of modern health knowledge, attitudes and behavior; includes family life-sex education, drug use and abuse, mental health, medical quackery and health frauds, common diseases such as venereal disease, heart disease and cancer.

Upper Division

300. Community Health Statistics (3) F, S Beegle
Prerequisite: Mathematics 100. Concepts and procedures of statistical analysis in community health. (Lecture 2 hours, laboratory 3 hours.)

320. Community Health Problems (3) F, S Cortese, Torney
Prerequisite: Consent of instructor. Community aspects of pertinent health problems and the organization of health resources; emphasis on philosophy, services, administration and interrelationships of public, private and voluntary health agencies as they function in the community.

321. Consumer Health (3) F, S Campbell
Quackery and fraudulent health practices; protection agencies; laws protecting consumer health; criteria for selecting health information, products and services, and medical care services.

322. Environmental Health (3) F, S Lussier
Factors in man's physical environment which may exercise a deleterious effect on his physical development, health and survival.

325. The School and Sex Education (3) F, S Beegle, Burhans, Campbell
Prerequisites: Biology 200, Psychology 100; or equivalent. Development and conduct of sex education in American schools; factors in human growth and sexual maturation; family health problems; parenthood; family planning.

327. Stimulants and Depressants (3) F, S Beegle, Burhans, Irwin, Torney
Narcotics and addiction; alcohol and alcoholism; smoking and health; dangerous drugs; and related laws.

400. Determinants of Disease Prevalence in Man (3) F Beegle
Prerequisite: Microbiology 100 or equivalent. Application of epidemiologic procedures to the understanding of the occurrence and control of infectious and chronic diseases, mental illness, environmental health hazards, accidents and geriatric problems.

401. Community Health Education (3) S Faculty
Concepts of community health education with emphasis on community organization; application of these concepts to health education activities of official, voluntary and professional health agencies.

410. Health Science and the Young Child (3) F, S Irwin, Pollock
Health needs and problems of the young child; health science content pertaining to attitudes and behavior; concepts of appraisal, services and healthful environment.

411. Health Science for Teachers (3) F, S Burhans, Cortese, Irwin
Prerequisite: Upper division students only. Contemporary teaching of health education in elementary and secondary schools; emphasizes drug use and abuse, human sexuality, community and human ecology (meets state credential requirement for health education). Not open to health science majors or minors.

420. International Health (3) S Faculty
Factors affecting health in selected populations, international variations, human ecology and the organization and purpose of agencies functioning in this field.

421. Health Behavior (3) F, S Lussier
Prerequisite: Psychology 351 or 370. Current research in the medical and behavioral sciences related to health and illness, with attention to factors underlying individual and group health behavior.

430. School Health Program (3) F, S Burhans, Cortese, Pollock
Intensive analysis of the philosophy, organization and legal aspects of the school health program.

440. Applied Concepts of School Health Science (3) F, S Pollock
Prerequisite: Health Science 430. Identification and application of the concepts and modes of inquiry unique to the discipline of health science.

480. Observation and Participation in Health Science (3) F, S Faculty
Co-requisite: To be taken concurrently with Secondary Education 421. Supervised observation in secondary schools; classroom discussion and analyses. (Lecture-discussion 2 hours, observation 2 hours.)

485. Field Experience in Community Health Education (3) F, S Beegle, Cortese
Prerequisites: Health Science 401 and consent of instructor. Supervised observation and field experience in community health education as conducted by official, voluntary and professional health organizations.

490. Independent Studies in Health Science (1-3) On demand Faculty
Prerequisite: Consent of instructor. Students will conduct independent library or laboratory research under the supervision of a faculty member and write a report of the investigation. May be repeated for a maximum of six units.

499. Special Studies (1-3) F, S Faculty
Group investigation of selected topics. Topics to be announced in the *Schedule of Classes*. May be repeated for credit to a maximum of six units.

Graduate Division

501. Public Health Organization (3)

508. Administrative Relationships in Health Education Programs (3)

516. Patient Health Education (3)

570. Theoretical Concepts and Issues in Health Science (3)

581. Curriculum Development and Evaluation in School Health Education (3)

625. Seminar in Sex Education (3)

626. Seminar in Preventive Medicine and Public Health (3)

627. Seminar in Stimulants and Depressants (3)

628. Seminar in Consumer and Environmental Health (3)

696. Research Methods (3)

697. Directed Studies (1-3)

698. Thesis (1-4)

Safety Education

Lower Division

220. Public Safety and Accident Prevention (2) F, S Probst
Accident prevention in the home, at school, on the job and in the community.

Upper Division

321. Driver and Traffic Safety Education I (2) F, S Probst
Co-requisite: Safety Education 321L. Study of factors basic to safe and responsible driving. Not open to students with credit in Safety Education 325.

321L. Driver and Traffic Safety Education I Laboratory (1) F, S Probst
Prerequisites: Valid California driver's license and an extensive driving record free from repeated traffic violations, convictions and/or accidents. Co-requisite: Safety Education 321. Laboratory to improve personal driving skill. Not open to sudents with credit in Safety Education 325.

330. Elementary and Secondary School Safety (2) F Probst
Responsibilities of the classroom teacher in school safety education programs.

422. Driver and Traffic Safety Education II (2) F, S Kaywood
Prerequisites: Safety Education 321, 321L and consent of instructor. Co-requisite: Safety Education 422L. Analysis of the driving task involving factors of man-machine-environment complex in traffic safety; legal provisions; application of technological advances and research in traffic safety. Not open to students with credit in Safety Education 440.

422L. Driver and Traffic Safety Education II Laboratory (1) F, S Kaywood
Prerequisites: Safety Education 321, 321L and consent of instructor. Co-requisite: Safety Education 422. Laboratory experience teaching beginning drivers in the dual control car. Not open to students with credit in Safety Education 440.

423. Driving Simulators (2) F, S Kaywood
Prerequisites: Safety Education 422, 422L (may be taken concurrently) and consent of instructor. Co-requisite: Safety Education 423L. Design, concepts, research and development, capabilities, limitations, operational procedures and preventive maintenance of driving simulators. Not open to students with credit in Safety Education 445.

423L. Driving Simulators Laboratory (1) F, S Kaywood
Prerequisites: Safety Education 422, 422L (may be taken concurrently) and consent of instructor. Co-requisite: Safety Education 423. Laboratory experience teaching beginning drivers in the driving simulator laboratory. Not open to students with credit in Safety Education 445.

425. Behavioral Factors in Traffic Safety (3) S Faculty
Prerequisite: Psychology 100 or consent of instructor. Human behavior in its relationship to accidents in the driver-vehicle-environment system. Theory of causes and prevention of accidents and techniques for countering them.

460. Administration and Supervision of Driver Education Programs (2) F, S Kaywood
Prerequisites: Safety Education 423, 423L or consent of instructor. Organization and administration of secondary school driver education programs. Includes evaluation of current programs, appraisal of current trends and research studies, and factors involved in program supervision.

490. Independent Studies in Safety Education (1-3) On demand Kaywood
Prerequisite: Consent of instructor. Students will conduct independent library or laboratory research under the supervision of a faculty member and write a report of the investigation. May be repeated for a maximum of six units.

499. Special Topics in Safety Education (1-3) F, S Kaywood
Group investigation of selected topics. Topics to be announced in the *Schedule of Classes*. May be repeated for credit to a maximum of six units.

5—76763

Home Economics

Department Chair: Mrs. Mabel S. Moore.

Emeritus: Zelpha Bates.

Professors: Buckner, Dinerstein, Hoff, Kefgen, Lare, Samples, Wharton.

Associate Professors: Dempster, Hamilton, Keenan, Moore, Rader, Rodriguez, Vanderwarf.

Assistant Professors: Baker, Kesler.

Lecturers: Lamers, Morris, Soldat.

Credential Adviser: Mrs. Mabel Moore.

Academic Advising Coordinators:
Child and Family Development: Dr. Suad W. Kesler.
Dietetics and Food Administration: Dr. Mildred S. Rodriguez.
Education: Mrs. Mabel S. Moore.
Environmental Factors: Mrs. Grace E. Dinerstein.
Family Finance, Management and Consumer Services: Mrs. Maxine K. Keenan.
Textiles and Clothing: Ms. Mary F. Kefgen.

The Department of Home Economics offers programs of study leading to the bachelor of arts and master of arts degrees. Specific information related to the master's degree program is found in the *Graduate Bulletin*.

Curricula are designed to provide a liberal education through study in the social and natural sciences, the humanities and the arts and to offer specialized instruction based on these disciplines which will lead to professional careers in home economics and related fields.

Programs of study cover various aspects of the field—child development and family relations; environmental factors; housing and interiors; family finance, management and consumer services; food and nutrition; and textiles and clothing. Requirements for the teaching credential, eligibility for membership in the American Dietetic Association, preparation for careers in home economics extension service, business and home economics in community service may be met.

The department serves the needs of students completing majors in other fields who find that certain aspects of home economics are important to their professional objectives or personal interest.

Students may select courses for a major in home economics with such specific career objectives as:

Home Economics Education. Requirements for teaching credentials include specific courses in education and student teaching.

Dietetics and Food Administration. Academic requirements for membership in the American Dietetic Association may be completed with specialization in one of four areas (a) general dietetics, (b) food management, (c) clinical dietetics and (d) community nutrition. Effective fall, 1976, the American Dietetic Association has approved the department program for meeting criteria under Plan IV. Requirements for membership also include completion of an internship, or an equivalent experience, approved by the American Dietetic Association.

Home Economics in Extension Service. General home economics and/or courses in two or more areas of home economics are needed. Courses in business, speech, journalism, radio and television are desirable.

Home Economics in Community Service. This program prepares for career opportunities in health, welfare and other community agencies.

Home Economics in Business. This emphasis prepares for representative types of business opportunities in advertising, consumer relations, equipment, family finance, foods, housing and interiors, journalism, merchandising, product development, research and textiles. Supporting courses in other departments may be selected to more fully prepare students for their own career objectives.

Major in Home Economics for the Bachelor of Arts Degree (code 2-1020)

Requirements for all majors include a minimum of 124 units for the bachelor of arts degree. In addition to general education requirements, a minimum of 40 units in home economics must be completed, 24 of which must be upper division. Students transferring from another college or university will receive transfer credit in required courses if the course is equivalent to the course at this University.

Lower Division: Biology 207 or 208, 209; Chemistry 111A or 200, Economics 200, 201; English 100, 101; Psychology 100; Sociology 100 or 142 or Anthropology 120; Home Economics 141 or Art 100.

Upper Division: Economics 300 or 308 (if 200 and 201 were not taken); English 317 (if English 101 was not taken); Home Economics 312, 321 and 499 or approved alternative.

Additional required and elective courses for a specific program of study shall be selected in consultation with a faculty adviser and with departmental approval. Recommended course sequence, advisement material and other information are available in the Home Economics Department office.

Bachelor of Science Degree in Dietetics and Food Administration (code 3-1018)

This curriculum is designed to enable students to prepare for professional careers in the field of food, institutional food and in nutrition. Careers include food in business, nutrition programs in community and institutions and dietetics in the allied health professions. This program will also enable students to prepare for graduate study required for college teaching and research in food and nutrition.

Admission to the Program:

Students must have completed a minimum of 8-13 units of chemistry, 4-8 units of biology and Home Economics 232, 234 and 235 before admission to the

program. Units completed for admission will be credited toward fulfillment of the total requirements of the program. Continuation in the program will require maintaining a grade point average of 2.0 (C) or better and satisfactory performance in all professional courses. The programs in home economics are accredited by the American Home Economics Association.

Minimum Course Requirements:

Natural Sciences: A total of 21 units selected with advisement from Biology 207, 208, 209; Chemistry 111A-B, 251, 251L, 327, 328, 441A-B, 448, 449; Microbiology 210; Physics 104. *Social Sciences:* A minimum of six units selected with advisement from Anthropology 120, Economics 300, Psychology 381, Social Welfare 260, Sociology 100. *Supporting Professional Courses:* A minimum of nine units selected with advisement from Educational Psychology 305, Instructional Media 300, Journalism 110, 460, 476, Management 303, Manpower Management 361, Quantitative Systems 240. *Home Economics:* Required courses are Home Economics 232, 234, 235, 312, 321, 331, 332, 333 and three units in 490, 491 or 499; a minimum of 9 units selected with advisement from Home Economics 323, 335, 337, 432, 433, 434, 436, 437, 438, 461, 486. *Electives:* 5-6 units or minimum units to make an overall total of 40 units in home economics, of which 24 units are at the 300-400 level.

A total of 128 units must be completed for the bachelor of science degree.

Master of Arts Degree in Home Economics

A program of study leading to the master of arts degree in home economics is offered. For detailed information concerning requirements see the *Graduate Bulletin.*

Cooperating Program with Merrill-Palmer Institute

The Home Economics Department offers a cooperating program with the Merrill-Palmer Institute designed to expand the opportunities for home economics majors with a special interest in the study of the child and the family in the urban community.

Merrill-Palmer Institute is a private institution of established reputation which provides programs of specialized study in the behavioral sciences for students enrolled for degrees elsewhere. The ratio of faculty to students allows the student to pursue a highly individualized program.

The location of the institute in the inner city section of Detroit furnishes valuable experiences working with the families in the neighborhood. Such experiences would be particularly relevant for students planning to enter careers in teaching, social welfare, child welfare or guidance, family counseling, family life education, community nutrition or environmental factors.

The cooperating program is available for the fall semester or the full academic year to any *selected* second semester junior or first semester senior majoring in home economics. Minimum prerequisites to consider for selection are Home Economics 111, 312, 314 and a special interest in the study of the child and the family in the urban community.

Interested students should apply to the program coordinator, Mrs. Arlene Hamilton in the Home Economics Department.

Child Development Program

Child Development in the Home Economics Department provides an academic and professional background for working with children and families. It offers an interdisciplinary foundation in several areas that influence the life and education of children. Field-work opportunities where students have direct experiences with children and families in the community are provided.

Specifically the program qualifies the students to apply for the Child Development Permit from the State of California which is required for working in and directing child development programs such as nursery schools, day care centers, Head Start and preschool programs—campus child development centers and other children's programs in public and private agencies.

The Certificate in Child Development may be earned in conjunction with the baccalaureate degree or teaching credential in home economics or related field. Courses offered for the certificate may be the same ones used to satisfy, where applicable, major, minor, credential, or general education requirements.

Requirements for the Certificate in Child Development:

1. A bachelor's degree in home economics or related field.
2. 39 units distributed as follows:

   Lower Division (9 units): Home Economics 111, 141, 232.

   Upper Division (24 units): Home Economics 312, 314, 411, 412 or 413, 414, 416, 433.

   Electives: A minimum of six units, selected in consultation with the coordinator.

Certification of successful completion of the Certificate in Child Development will be recommended by the coordinator.

Interested students should apply to Ms. Donna Dempster, Home Economics Department.

Lower Division

100. Introduction to Home Economics (1) F, S Rader
History, development and professional career opportunities in the field of home economics. Open to lower division students only. (Lecture 1 hour.)

Upper Division

400. Internship in Home Economics (3) F, S Hamilton
Prerequisite: Upper division standing. Field experience in which the student assumes a self-directed, responsible role in an agency with minimal teacher support and with professional supervision, consultation and evaluation.

486. Teaching-Learning Strategies in Home Economics (2) F, S Moore
Utilize the principles and concepts of each area of home economics in developing a variety of teaching-learning experiences appropriate for individuals or groups in a community setting. (Laboratory 4 hours.)

487. Curriculum and Instruction in Consumer Education Programs (3) F Rader
Prerequisite: Home Economics 323, Ed.S.S. 450H or consent of instructor. Development of curriculum in consumer education programs for school and community. Current resources, effective uses of media and methods for instruction appropriate for various age levels. Coordination of offerings with other school and community agencies. (Lecture-discussion 3 hours.)

488. Career Education: Developing Occupational Programs in Home Economics (3) S Rader
Prerequisite: Ed.S.S. 450H or teaching experience or consent of instructor. Utilizing knowledge and skills derived from the field of home economics as a basis for offering occupational opportunities for youth and adult through planning programs in school and community. (Lecture, discussion 3 hours.)

490. Directed Studies (1-3) F, S Samples
Prerequisites: Home economics major, senior standing. Independent study under the supervision of a faculty member. Readings in areas of mutual interest to student and faculty which are not a part of any regular course. Written report is required. May be repeated once for credit with consent of department.

493. Contemporary Issues in Home Economics (1-3) F, S Faculty
Prerequisite: Consent of instructor. Current contemporary issues in the various areas of home economics selected for exploration and development. May be repeated for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

499. Special Topics (1-3) F, S Samples
Group investigation of selected topics. Topics to be announced in the *Schedule of Classes*. May be repeated for credit to a maximum of nine units.

Child and Family Development

Lower Division

111. The Preschool Child (2) F, S Dempster
Prerequisites: Psychology 100, Sociology 100 or 142 or Anthropology 120 (may be taken concurrently), or equivalent. Behavior and development in early childhood, with emphasis on the interaction of parents, children and teachers. (Lecture-discussion 2 hours.)

111L. Laboratory in Preschool Child (1) F, S Dempster
Prerequisite or concurrent registration in Home Economics 111. Laboratory in which the concepts underlying behavior and development in early childhood are applied through experience with children. (Laboratory 3 hours.)

Upper Division

311. Prenatal Development and Infancy (3) On demand Faculty
Prerequisites: Upper division standing, Biology 207. Human development from conception through prenatal development, childbirth, the neonatal period, infancy and toddlerhood with emphasis on the various aspects of development and the environmental social factors essential for human growth.

312. Family and Personal Development (3) F, S Kesler
Prerequisites: Psychology 100, Sociology 100 or 142, or Anthropology 120 or consent of instructor. Interdisciplinary introduction to the concepts underlying contemporary American family life and the influence of social and cultural conditions on human development. (Lecture, discussion 3 hours.)

314. The Older Child (3) F Faculty
Prerequisite: One of the following or consent of instructor: Home Economics 111, Educational Psychology 301 or Psychology 361 or Human Development 307. Behavior and development in middle and late childhood and early adolescence, with emphasis on individual and cultural differences. (Lecture 3 hours.)

411. Individual Child Study (3) F, S Kesler
Prerequisite: Upper division standing, Home Economics 314, or Educational Psychology 301 or Human Development 307 or consent of instructor. Analysis and interpretation of theory, research, trends and techniques for the study and guidance of the individual child in a family and community setting. (Lecture-discussion 3 hours.)

412. Family Interaction (3) F, S Dempster
Prerequisites: Upper division standing, Home Economics 312, or consent of instructor. Dynamics of interaction and communication in interpersonal relationships throughout the family life cycle. Experience with a variety of communication skills in small group settings. (Lecture 3 hours.)

413. The Family in the Community (3) F, S Faculty
Prerequisites: Upper division standing, Home Economics 312, or consent of instructor. Study of cultural varieties and the needs of the contemporary American family in an urban community, analysis of current issues and problems, identification of and experience with community resources and agencies.

414. Field Work with Preschool Children (3) F, S Faculty
Prerequisites: Upper division standing, Home Economics 411 and consent of instructor. Participation in a teaching-learning situation with preschool children, developing skills of observation and assessment of child behavior, planning activities and organization and management of a preschool program.

416. Directing Children's Programs (3) S Faculty
Prerequisite: Home Economics 414. Minimum and recommended standards and laws pertaining to housing, equipment, play space, adult child ratio, health supervision and meal service for children's programs. Selection and supervision of personnel, program planning and directing, record keeping. Field experience. (Lecture-discussion 3 hours.)

418. Working with Parents (3) S Faculty
Prerequisites: Home Economics 413 and one other 400-level course in home economics and consent of instructor. Principles and techniques for working with parents in community and school programs. Assessment of needs and development of programs for adults in a variety of social and cultural settings.

419. Family Life Education (2-3) On demand Faculty
Prerequisites: Home Economics 412 and 413 or consent of instructor. Concepts of family development and interaction with special emphasis on leadership opportunities for professional persons. Not open to students with credit in Sociology 473.

Environmental Factors: Housing and Interiors

Lower Division

141. Techniques in Applied Arts (3) F, S Dinerstein
Basic concepts and techniques of applied art including media, presentation methods and visual communication. (Lecture-laboratory 6 hours.)

142. Housing Design (3) F, S Dinerstein
Prerequisites: Home Economics 141, 241 and Industrial Arts 141 or consent of instructor. Prerequisites may be taken concurrently. Functional and aesthetic factors of housing as related to family needs. (Lecture-laboratory 6 hours.)

143. Color: Theory and Application (2) F, S Dinerstein
Essential theories of color perception. Applied problems dealing with color interaction phenomena, effects and function. (Laboratory 4 hours.)

241. Contemporary Housing and Interiors (3) F, S Dinerstein
Planning the total life space environment. Shelter and interior concepts from a nontechnical basis. (Lecture-discussion 3 hours.)

Upper Division

340. History of Applied Arts (3) S Hoff
Study of the history of the applied arts with emphasis on the interiors, furnishings and structures as they express needs and values of civilization in history. Critical appraisal of aesthetic and functional qualities of the environment. (Lecture-discussion 3 hours.)

342. Environmental Factors in Housing and Communities (3) F, S Hoff
Problems of developing effective housing and communities for families in various cultural situations. Sociological, financial, psychological and legislative factors are investigated. (Lecture-discussion 3 hours.)

344. Interiors (3) F Hoff
Prerequisites: Home Economics 142, 143, Industrial Arts 347, 481, Art 224. Art 224 and Industrial Arts 347 may be taken concurrently. Design principles as applied to interiors: analysis of materials and elements used in environmental planning. (Lecture-laboratory 6 hours.)

440. Environmental Factors and the Urban Family (3) F Dinerstein
Prerequisite: Home Economics 342 or consent of instructor. Critical analysis of the urban family's environment including aspects of shelter, community and the city. (Lecture-discussion 3 hours.)

441. Advanced Interiors (3) S Hoff
Prerequisites: Home Economics 340, 344, 353, Art 271, Industrial Arts 442. Art 271 and Industrial Arts 442 may be taken concurrently. Advanced design as applied to interiors; analysis of materials and elements used in environmental planning. (Lecture-laboratory 5 hours.)

442. Housing Policies: Public and Private (3) S Hoff
Prerequisite: Home Economics 342 or consent of instructor. Federal, state and local legislation and policies concerning housing, urban renewal financing and city planning. Analysis of the housing industry and its influence on the consumer market. (Lecture 2 hours, field work 3 hours.)

444. World Housing (3) F Dinerstein
Prerequisite: Home Economics 342 or consent of instructor. Theories and solutions of family housing in urban and rural areas throughout the world. (Lecture 3 hours.)

Family Finance, Management and Consumer Sciences

Upper Division

321. Home Management (3) F, S Keenan
Prerequisite: Upper division standing. Application of social, economic and technical decision theory to the management of the home and the influence of family values, goals, philosophy and socioeconomic conditions upon those decisions. (Lecture, discussion 3 hours.)

323. Personal and Family Financial Management (3) F, S Buckner
Prerequisite: Upper division standing. Theory and procedure in planning, controlling and protecting financial resources. Emphasis on education and laws to protect the consumer. (Lecture, discussion 3 hours.)

327. Household Equipment Technology (3) F, S Hamilton
Prerequisite: Upper division standing. Principles and consumer information needed for the selection, care and operation of equipment for the home environment. Application of basic physical science principles. (Lecture 2 hours, laboratory 3 hours.)

421. Management of Family Resources (3) F Keenan
Prerequisite: Home Economics 321. Examination of parameters for efficient management of human resources, non-human energy resources and related technology available to the family. (Lecture 3 hours.)

423. Home Management Project (3) F, S Hamilton
Prerequisites: Home Economics 321, 323, 413 or equivalent. Analysis of family goals and values in a rapidly changing culture; principles and concepts of management developed through field work with families. (Lecture 2 hours, field work 3 hours.)

424. Independent Living for the Handicapped and Elderly (3) S Hamilton
Prerequisite: Home Economics 321 or consent of instructor. Home management concepts as related to the physically disabled and the elderly in the near environment. Rehabilitation procedures for independent living. Emphasis on research findings in regards to functioning in the home and family. (Lecture-discussion 3 hours.)

426. Family Financial Problems (3) F, S Buckner
Prerequisite: Home Economics 323 or consent of instructor. Theory and practice in the diagnosis of family financial crises; selecting alternative solutions; constructing practical methods for the prevention of family financial problems. (Lecture 2 hours, laboratory 3 hours.)

427. Advanced Household Equipment (3) On demand Hamilton
Prerequisite: Home Economics 327. Design and performance of the major home appliances; changes in supply and consumption of energy sources; government regulations affecting household equipment materials, design, safety and marketing strategies. (Lecture 3 hours.)

Food and Nutrition

Lower Division

232. Nutrition and You (3) F, S Baker
Prerequisite: Biology 207 or laboratory course in one of the biological sciences. Essential nutrients, their physiological functions and human needs during the life cycle, food sources as applied to selection of an adequate dietary; problems encountered in providing food to meet nutritional needs; food additives and consumer protection. (Lecture-discussion 3 hours.)

234. Orientation to Dietetics and Food Administration (2) F Rodriguez
Role of the professional in dietetics and food administration; orientation to career opportunities in food, nutrition and food service systems management; personnel and physical facilities, including equipment, in health care and mass feeding programs. Field trips required. (Lecture 1 hour, laboratory 3 hours.)

235. Principles of Food Preparation (3) F, S Vanderwarf
Prerequisite: Chemistry 111A or 200. Application of scientific principles in the preparation of selected food products, with emphasis on the physical and chemical properties of food: methods and techniques of food preparation; factors that contribute to quality of food products; judging quality of prepared foods. (Lecture 2 hours, laboratory 3 hours.)

Upper Division

331. Fundamentals of Human Nutrition (3) F, S Rodriguez
Prerequisites: Home Economics 232; Biology 207 or 208, 209; Chemistry 300 or 327; or equivalent. Nutritional needs with the emphasis on the physiological and chemical foundation for these needs; factors influencing nutrient needs. (Lecture-discussion 3 hours.)

332. Food Science (3) F Faculty
Prerequisites: Chemistry 300 or 327, Home Economics 235, or equivalents. Composition and structure of foods; chemical changes in foods that affect their color, flavor, texture, aroma and nutritive quality during processing and preparation; techniques for food preservation. (Lecture 2 hours, laboratory 3 hours.)

333. Meal Management (3) F, S Faculty
Prerequisites: Home Economics 232, 235; 321 may be taken concurrently. Factors which influence meal plans; food selection, preparation and service in relation to management of time, energy and money. (Lecture 2 hours, laboratory 3 hours.)

335. Quantity Food Production (3) F Vanderwarf
Prerequisites: Home Economics 234, 333. Principles of menu planning as applied to institutional food service; methods of producing food in quantity using institutional equipment; cost control. Experience in food service operations, such as hospitals, college residence hall and school lunch volume food production centers. (Lecture 2 hours, laboratory 3 hours.)

337. Food Service Systems Management (3) S Richie
Prerequisite: Home Economics 335. Principles of organization and management, cost control, personnel management and administration in institutional food services. (Lecture 3 hours.)

430. Nutrition and Health (3) F, S Baker
Prerequisite: Upper division standing. Intensive study of nutrition including evaluation of current trends in food and nutrition. Designed for students in health education, elementary and secondary education, social service and other elective students. Not open to home economics majors. (Lecture 3 hours.)

432. Experimental Foods (3) F Faculty
Prerequisites: Chemistry 300 or 327, Home Economics 332, or equivalents. Application of scientific methods for the interpretation and evaluation of food. Objective, physical, chemical and sensory assessment of food properties. Independent laboratory problems. (Lecture 2 hours, laboratory 3 hours.)

433. Nutrition of Infants and Children (3) F Baker
Prerequisite: Home Economics 232 or 331 or equivalent. Nutritional needs specifically related to the development of the embryo, the infant and the child through adolescence. Methods of judging nutritional status of children and evidences of malnutrition. (Lecture 3 hours.)

434. Food Systems Management: Cost Control (3) S Vanderwarf
Prerequisite: Home Economics 335 or consent of instructor. Financial management, including control of food, labor, equipment and other operational costs; principles and procedures used when purchasing food for food service operations; use of specifications; factors affecting quality; inventory management; development, utilization and maintenance of physical facilities; analysis of purchasing problems of food service managers. Field trips required. Not open to students with credit in Home Economics 334.

436. Advanced Nutrition (4) S Wharton
Prerequisites: Home Economics 331 or equivalent; Chemistry 448. Metabolism of protein, fats, carbohydrates, minerals and vitamins; interrelationships of nutrients; procedures for determining nutritional requirements of individuals. (Lecture 3 hours, laboratory 3 hours.)

437. Cultural Aspects of Food and Nutrition (3) On demand Faculty
Prerequisites: Home Economics 232, Psychology 100, Sociology 100 or Anthropology 120 or equivalents. Cross cultural study of food and nutrition. Factors such as history, religion, food sources and socioeconomic status are considered. (Lecture-discussion 3 hours.)

438. Diet Therapy (3) F Wharton
Prerequisite: Home Economics 436. Introduction to therapeutic nutrition. Metabolic changes in specific pathological conditions, dietary modification used for treatment. (Lecture 3 hours.)

461. Community Nutrition (3) S Baker
Prerequisites: Upper division standing, Home Economics 436. Nutritional status and factors responsible for the nutrient intake of all people. Communication techniques in community nutrition education. (Lecture 3 hours.)

462. Recent Developments in Nutrition (3) F Wharton
Prerequisites: Upper division standing, Home Economics 232 or 331 or consent of instructor. Analysis of recent developments and current research in nutrition. (Lecture 3 hours.)

491. Directed Studies in Food and Nutrition (1-3) F, S Faculty
Prerequisites: 12 units in food and nutrition. Independent study under the supervision of a faculty member. Readings in areas of interest to student and faculty which are not a part of any regular course. Written report is required. May be repeated once for credit with consent of instructor.

Textiles and Clothing

Lower Division

251. Principles of Apparel Selection (3) F, S Kefgen
Apparel selection for the individual and family based upon aesthetic guidelines, cultural influences and consumer needs. (Lecture, discussion 3 hours.)

254. Fundamentals of Clothing Design (2) F, S Kefgen, Lare
Corequisite: Home Economics 254L unless waived by examination. Analysis of theories and methods of clothing construction. (Lecture 2 hours.)

254L. Laboratory in Clothing Design (1) F, S Faculty
Corequisite: Home Economics 254 unless waived by examination. Application of theories and methods of clothing design to construction. (Laboratory 3 hours.)

Upper Division

353. Textiles (3) F, S Lare
Prerequisite: Chemistry 111A or 200 or consent of instructor. Interrelationship of fiber, yarn structure, fabric geometry and finishing treatments to the textile's appearance, comfort, durability and maintenance. (Lecture 3 hours.)

354. Analysis of Tailoring Processes (3) F Kefgen
Prerequisite: Home Economics 254 or equivalent. Analysis of processes applied to construction of suits and coats. (Lecture 2 hours, laboratory 3 hours.)

357. Creative Pattern Design (3) F Lare
Prerequisite: Home Economics 254 or equivalent. Exploration of the total design concept as it applies to pattern manipulation. (Lecture-discussion 2 hours, laboratory 3 hours.)

450. Cultural Bases of Textiles and Apparel Design (3) S Kefgen
Prerequisites: Home Economics 353, Anthropology 120 or Sociology 100 or 142 or consent of instructor. Factors influencing design and techniques of textile and apparel production in societies that create and utilize them. Symbolism of indigenous and adapted textile and clothing designs as a communicative device for expressing social and cultural values. (Lecture-discussion 3 hours.)

451. Fashion Analysis (3) F Faculty
Prerequisites: Home Economics 251 and 353. Factors affecting fashion trends, patterns of clothing consumption, consumer acceptance or rejection of European and American fashions. Organization and structure of the fashion industry. (Lecture 3 hours.)

452. Costume Design and Draping (3) S Lare
Prerequisite: Home Economics 254 or equivalent. Exploration of the total design concept as it applies to fabric manipulation. (Lecture-discussion 2 hours, laboratory 3 hours.)

453. Advanced Textiles (3) S Lare
Prerequisites: Home Economics 353, Physics 104. Chemical and physical structure of fibers and finishes and physical structure of yarns and fabrics in relation to serviceability. (Lecture-discussion 2 hours, laboratory 3 hours.)

454. Experimental Clothing (3) S Kefgen
Prerequisites: Home Economics 254, 353 or consent of instructor. Experimental approach to apparel construction; evaluation of appropriate construction techniques as related to fabric geometry, garment appearance and serviceability. (Lecture 2 hours, laboratory 3 hours.)

458. Theories and Issues in Textiles and Clothing (1-3) On demand Faculty
Prerequisites: Six upper division units in textiles and clothing or consent of instructor. Topics of current interest in textiles and clothing selected for intensive development. May be repeated for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

492. Directed Studies in Textiles and Clothing (1-3) F, S Faculty
Prerequisite: Senior standing. Independent study under the supervision of a faculty member. Written report is required. May be repeated for credit with consent of instructor.

Graduate Division

500. Internship in Home Economics (3)

511. Family Development (3)

515. Goals of Human Development (3)

521. Decision Making in Home Management (3)

523. Consumer Protection (3)

530A-B. Special Topics in Nutrition (3,3)

531. Nutrition Programs for School and Community (3)

532. Advanced Experimental Foods (3)

541. Housing and Human Settlements (3)

552. Garment Design (3)

559. Apparel Behavior (3)

561. Curriculum Development in Home Economics (3)

563. Evaluation in Home Economics (3)

590. Independent Study (1-3)

605. Seminar in Organization and Administration of Home Economics (3)

615. Seminar in Child Development (3)

625A-B. Seminar in Family Finance and Management (3,3)

635A-B. Seminar in Food and Nutrition (3,3)

645. Seminar in Housing and Human Settlements (3)

655A-B. Seminar in Clothing and Textiles (3,3)

665. Seminar in Home Economics (3)

696. Research Methods (3)

697. Directed Research (1-3)

698. Thesis (1-4)

Industrial Education

Department Chair: Dr. Leonard Torres.

Emeritus: Ernest J. Rawson.

Professors: Dean, Farr, Genevro, Grainge, Lathrop, Nicholson, Patcha, Powell, Ryan, Schmidt, D. Smith, E. Smith, Torres, Trout, Webster.

Associate Professors: Brandstatt, Church, Gietl, Heineman, Kunst, Macon, Martin, Quinones, Randall, Routh, Trusty, Wittich.

Assistant Professor: Hironaka.

Credential Adviser: Dr. James Ryan.

Academic Advising Coordinators: Dr. Leonard Torres, Dr. James E. Ryan.

Industrial education is a study of industry primarily designed to prepare elementary, secondary and community college teachers who will help students gain an insight and understanding of industry and its place in the American culture, discover and develop attitudes and skills useful for trades, professions and activities requiring technical information and skills.

The industrial education curriculum is designed to meet the needs of the following groups of students: (1) those preparing to enter the teaching profession in the field of industrial arts who need the teaching credential; (2) those preparing for certification as manual arts therapists; (3) those who are teaching industrial arts and who desire to further their professional growth; (4) those who desire to broaden their experiences but who do not plan on entering the teaching profession; (5) those who are vocationally qualified and who desire to qualify to teach industrial arts subjects in their special areas; (6) those who qualify for the standard designated subjects credential with specialization in vocational trade and technical teaching and who wish to teach occupational subjects in secondary schools, ROP and ROC centers, community colleges and adult education.

Courses in industrial education also are designed for students completing majors in other subject fields and wishing to take elective units in this area.

Course offerings in industrial education have been selected so that the student can qualify for (1) technical training leading to the baccalaureate degree; (2) a teaching major or minor in industrial arts for the teaching credential; (3) the standard designated subjects credential with specialization in vocational trade and technical teaching; (4) the master of arts degree with a major in industrial arts; (5) a certificate in industrial plastics processing and design in association with the School of Engineering; (6) a certificate in automotive supervision and (7) a certificate in graphic arts supervision.

Major in Industrial Arts for the Bachelor of Arts Degree (code 2-1025)

Lower Division: In consultation with an adviser in the Industrial Education Department, 12 units selected from six of the following eight courses: Industrial Arts 101, 111, 121, 131, 141, 151, 161, 170.

Upper Division: 24 units of technical industrial arts courses planned in consultation with a major adviser, which must include Industrial Arts 343. Also required are Industrial Arts 385 and 484. Education Single Subject 450I is not a requirement for the baccalaureate degree but must be taken the semester before student teaching.

Minor in Industrial Arts (code 0-1025)

The minor in industrial arts requires a minimum of 20 units of technical courses selected in the general area of industrial arts to provide a well-balanced program. The 20-unit program should include work in at least three of the seven areas specified for the major. It is recommended that there be concentration in two areas of work. Students must consult with an adviser in the Industrial Education Department.

Certificate in Automotive Supervision

The Certificate Program in Automotive Supervision and Service is designed to prepare students for automotive supervision positions that require a strong technical background in automobile construction and operation. Opportunities in automotive supervision and service range from manufacturer's customer and technical representative to service instructor.

This interdisciplinary program provides a student with a depth of technical training in automotives, related technical courses and also provides the student with experiences in supervision necessary for supervisory level positions.

Requirements for the Certificate in Automotive Supervision:

1. A bachelor's degree in industrial arts that includes the following: a minimum of 18 units of automotive technical courses selected from Industrial Arts 361, 362, 363, 364, 365, 461, 462, 465 and 492. In addition, the student must complete 20 units of supporting technical courses and professional courses chosen in consultation with an adviser: Industrial Arts 321, 322, 323, 326, 331, 343, 370, 384, 470 and Education Single Subject 450I.
2. The completion of the following courses from the Department of Industrial Technology: Industrial Technology 300, 307, 309, or their equivalent.

Any deviation from this program requires the written permission of the program adviser. Interested students should contact Dr. Jay Webster, Department of Industrial Education.

Certificate in Graphic Arts Supervision

The Certificate Program in Graphic Arts Supervision is an interdisciplinary program sponsored by the Industrial Education Department in cooperation with the Industrial Technology Department.

The printing industry ranks as the second largest industry in the United States. A definite need exists for personnel familiar with the procedures necessary to operate in the supervisory realm of the industry.

The program would permit a student to study, in detail, industrial production processes, quality control procedures, economics and personnel requirements of the industry.

Requirements for the Certificate in Graphic Arts Supervision:

1. A bachelor's degree in industrial arts that includes the following: Industrial Arts 342, 343, 351, 352, 353, 380, 391, 453, 454, 455, 492.
2. Approval of the Certificate Committee for admission to the certificate program during the first semester of enrollment. An adviser will be appointed upon admission to the program.
3. Satisfactory completion of 24 units as listed below, or their equivalent: Industrial Technology 300, 307, 309, 315, 405; Accounting 202, Finance 222, Psychology 381.

Any deviation from this program requires the written permission of the program adviser. Interested students should consult Dr. Robert Kunst.

Certificate in Industrial Plastics Processing and Design

Director: E. Miller.

Professors: J.L. Dyer, Ph.D.; W.E. Edelman, Ph.D.; C.B. Gilpin, Ph.D.; E. Miller, D. Engr. Sci.; H. Unt, Ph.D.

Associate Professor: G. Trusty, Ph.D.

The Certificate Program in Industrial Plastics Processing and Design is an interdisciplinary program sponsored by the Industrial Education, Mechanical Engineering and Chemical Engineering Departments.

Polymeric materials rank as second in tonnage use currently of all materials, and indications are that in the near future they may surpass metals in total usage. There is a definite need for personnel familiar with the processing and special design considerations necessary to properly make use of the special properties of this broad class of materials.

The program permits a student to study in detail the industrial production processes, material testing procedures, economics of the polymerics industry and degradation of polymerics. All students in the program complete an individual project, consisting of the design of an item, choice of proper polymeric material for the particular application, choice of the processing operation and construction of the necessary moulding tools and testing of the completed device.

Requirements for the Certificate in Industrial Plastics Processing and Design:

1. Bachelor's degree in industrial arts or engineering.
2. Satisfactory completion of the 23 units listed below.
3. Approval of the certificate committee for admission to the certificate program. An adviser will be appointed at that time.
4. Adviser's approval of completion of special project.

Required Courses

Polymeric Processing: Industrial Arts 370, 470; Mechanical Engineering 471, either Mechanical Engineering 472 or 476; Industrial Arts 492 (four units minimum) and/or Mechanical Engineering 450.

Properties of Polymers: Industrial Arts 170; Mechanical Engineering 373, 374, 424.

Master of Arts Degree in Industrial Arts

A program of study leading to the master of arts degree in industrial arts is offered. For detailed information concerning the requirements see the *Graduate Bulletin.*

Lower Division

281. Exploratory Woodwork (2) S Trout
General woodworking designed to provide a broad background of information related to woodworking processes involving both hand and machine tools. Skills and safe work habits developed through individual solutions to given problems. Certification of safety instructions provided. (Laboratory included.)

282. Exploratory Metalwork (2) F, S Trout
Metalworking in the areas of bench work, forging, casting, art metal, sheet metal and welding processes. Designed: (1) to give a broad background and understanding in the technology of materials; (2) to develop skills through individual solutions for given problems; and (3) to develop safe habits in working with metals and equipment associated with metal work. (Laboratory included.)

Upper Division

380. Orientation to Industrial Education (1) S Randall
Orientation to industrial education for *non*teaching majors only. Evaluation of student's academic, social and mechanical aptitudes and abilities. Personal cumulative records started. Orientation to degree requirements and career opportunities.

381. Shop Maintenance (2) F, S Powell
Prerequisite: Majors only in the senior year. Systems used in the maintenance of records, tools and equipment. (Laboratory included.)

382. The Comprehensive General Shop (3) F, S Powell
Experiences in planning, organizing and teaching a multiple activity program of industrial arts combined with utilization of tools, materials and processes as applied to public school practice. (Laboratory.)

384. Materials Testing and Evaluation (2) F Patcha
Prerequisite: Consent of instructor. Testing and evaluation of basic metallic industrial materials, cutting fluids, lubricants, chemicals, finishing processes, plastics, fasteners and methods of quality assurance. (Lecture, laboratory.)

385. Organization and Management of Industrial Education Facilities (3) F, S E. Smith
Area planning problems with emphasis on general architectural specifications, auxiliary spaces and selection of tools, equipment and supplies. Plans and specifications for an instructional area are presented and evaluated. Includes safety considerations as applied to the planning, operation and utilization of laboratory facilities. Not open to students with credit in Industrial Arts 483.

388. Construction for Children (2) F, S Nicholson
Learning how to teach the wise and safe use of tools and materials to enhance children's programs, preschool through sixth grade. Introduction to Career Education. (Laboratory included.)

389. Career Education for Children (2) F, S Nicholson
Prerequisite: Industrial Arts 388 or equivalent. Further studies in integrating construction with children's programs. Special emphasis on Career Education with opportunities to work in the public schools and community. (Laboratory included.)

391. Internship in Industrial Education (2) F, S D. Smith
Prerequisite: Consent of coordinator. Planned, coordinated and supervised work experience in an industry allied with the students' technical areas of concentration. May be repeated for a maximum of eight units. Students may receive technical credit the second and the fourth time the class is repeated. Field trips into industrial complexes are scheduled according to technical areas of interest.

481. House Construction (1) F,S Macon
Designed for the homemaker desiring knowledge of materials and methods used in house construction. Not open to industrial arts majors.

482. Teaching Aids (2) On demand Faculty
Prerequisite: Industrial Arts 388 for students preparing to teach in K-6. Criteria for the selection, planning, development and construction of teaching aids for the individual student and/or teacher. Laboratory experiences to develop familiarity of above criteria and their use. (Laboratory included.)

484. Contemporary American Industry (3) F, S Genevro
Study of the development of modern industry and technology with emphasis on recent industrial change and career development. Implementation of educational, political, economic and technical change in modern systems of industrial education is an important consideration. (Lecture-discussion 3 hours.)

491. Special Problems in Industrial Education (1-3) F,S Lathrop
Prerequisite: Consent of instructor. Advanced work within an area of specialization done on an experimental or research basis. The area designated by letter at the time of registration as: (a) woods, (b) metals, (c) electricity-electronics, (d) industrial drawing, (f) automotive, (g) industrial crafts-plastics, (h) professional, (i) graphic arts, (j) photography, (k) plastics. May be repeated for a total of six units. (Non-technical.)

492. Advanced Technical Studies (1-6) F, S Faculty
Prerequisites: Consent of instructor and area requisite courses. Advanced work done within an area of specialization designed for the present industrial arts teacher who wants upgrading in his field of concentration. Covers new industrial processes and materials that may be related to teaching in the secondary schools. May be repeated for a maximum of six units per area of concentration (automotive, drawing, electricity-electronics, graphic arts, industrial crafts, plastics, metals, photography, woods and special generalized 492 courses not specifically allied to an area of industrial arts). (Laboratory included.)

493. Manual Arts Therapy Clinical Practice (3-6) On demand Torres
Prerequisite: Consent of department. Supervised experiences in manual arts therapy at various Veterans' Administration hospitals and rehabilitation centers. Students will acquire through observation and participation, clinical insight and experience in the procedures and practices in the field. 240 hours of experience required. (Field work.)

Automotive

Lower Division

161. Automotive I (2) F, S Faculty
Principles of operation of various components and the economics of selection and use of the modern automobile. Practical experience in maintenance and repair at the owner-operator level. (Laboratory included.)

Upper Division

361. Auto Engines (3) F, S Faculty
Prerequisite: Industrial Arts 161 or equivalent. Design and theory of construction and operation of engines. Types of materials used and tolerances of component parts. Testing, trouble diagnosis and rebuilding of an engine. (Laboratory included.)

362. Auto Electricity (2) F, S Hironaka
Prerequisite: Industrial Arts 131 or 161, or equivalent. Principles and theory of operation of electrical system components that are common to automotive type vehicles. Latest methods of testing and trouble shooting are stressed. (Laboratory included.)

363. Auto Chassis (2) F, S Hironaka, Webster
Prerequisite: Industrial Arts 161 or equivalent. Theories of design and operation of chassis units affecting stability, power flow, suspension and steering. Common to most automotive type vehicles. Includes testing, trouble diagnosis and modern methods of servicing. (Laboratory included.)

364. Auto Body Repair (2) F, S Faculty
Prerequisites: Industrial Arts 161 and 322, or equivalents. Techniques and practices of body rebuilding, refinishing and styling. (Laboratory included.)

365. Power Technology (2) F, S Webster
Prerequisite: Industrial Arts 161 or equivalent. Development, measurement, transmission, control and utilization of power. (Lecture, laboratory.)

368. Aviation I (2) F, S Genevro
Prerequisite: Industrial Arts 161. Theory of flight, aircraft power plants and structures, the airways system and FAA regulations, navigation, meteorology, survey of the aircraft industry and applicable related materials. (Laboratory included.)

461. Automotive Diagnosis and Tuneup (3) F, S Hironaka
Prerequisite: Industrial Arts 362 or equivalent. Theories of design and operation of fuel and emission control systems. Laboratory experiences focused on diagnosis and service using advanced analysis equipment. (Laboratory included.)

462. Automatics (2) F, S Webster
Prerequisite: Industrial Arts 161 or equivalent. Theories of design and operation of torque converters and automatic transmissions. Latest methods of testing, servicing and repair are stressed. (Laboratory included.)

465. Automotive Air Conditioning (2) S Hironaka
Prerequisite: Industrial Arts 161. Theories of design and operation of automotive air conditioning systems. Laboratory experiences focused on system diagnosis and service. (Laboratory included.)

Drawing

Lower Division

141. Industrial Drawing I (2) F, S Faculty
Basic principles of instrument and freehand drawing. Use and care of instruments, lettering, isometrics, orthographics, sections, auxiliary views, charts and graphs, maps, plot plans and architectural drawing. (Laboratory included.)

Upper Division

341. Industrial Graphics (3) On demand Randall
Prerequisite: Industrial Arts 141 or equivalent. Use of graphical techniques as a means of presenting data. Graphical representation will include multiview, basic machine and schematic drawings. Representation of data with graphs and the solution of arithmetical problems graphically, microfilm duplicating and true dimensional techniques and conversion from English to S1 metric. Not open to students with credit in Industrial Arts 241. (Laboratory included.)

342. Technical Sketching (2) F, S Gietl
Principles and practice of freehand sketching of projects on paper and on the blackboard. (Laboratory included.)

343. Industrial Arts Design (3) F, S Trout
Basic course dealing with the elements of two and three dimensional design, stressing the understanding and application of design principles to the industrial arts program. (Laboratory included.)

345. Industrial Drawing II (3) On demand Gietl
Prerequisite: Industrial Arts 141 or equivalent. Theories and graphic solutions in rotation, isometric, oblique projections. Intersections, curved surfaces, developments, space problems of angle and distance. (Laboratory included.)

346. Small Boat Design (2) On demand Randall
Prerequisite: Industrial Arts 141. Development of table of offsets, arrangement and profile plans, lines drawings, transom and developable surfaces drawings for sailing and planing vessels. Calculations of displacement, center of buoyancy, center of gravity, curve of area, stability, sail plans and engine requirements. (Laboratory included.)

347. Architectural Drafting (3) F, S Church
Prerequisite: Industrial Arts 141 or equivalent. Development of drafting techniques applicable to graphics employed in the planning and study of light frame construction processes. (Laboratory included.)

441. Machine Drawing (2) On demand Gietl
Prerequisite: Industrial Arts 141 or equivalent. Sketching and drawing of machine parts in detail and in assembly. Use of nomenclature, standard tables and empirical formulae. (Laboratory included.)

442. Architectural Planning and Presentation (3) F, S Church
Prerequisite: Industrial Arts 347. Study and planning of structures for specific functions. Development of presentation drawings including perspective drawing, shades and shadows, materials and colors. Review of architectural history. (Lecture, laboratory 6 hours.)

443. Electronic and Electro-Mechanical Drafting (2) On demand Randall
Prerequisites: Industrial Arts 131, 141. Development of drafting techniques applicable to schematic layout, study of electrical and physical symmetry, space allotment and mechanical development of electro-mechanical packages. (Laboratory included.)

Electricity-Electronics

Lower Division

131. General Electricity (2) F, S Faculty
Survey of electrical principles and devices. Discussions and activities emphasizing magnetism, DC and AC theory, basic test equipment, components and circuits and the importance of electricity to technology. (Laboratory included.)

Upper Division

331. Electronic Fundamentals (3) F, S Brandstatt, D. Smith
Prerequisite: Industrial Arts 131. Study of basic DC-AC theory, vacuum tube characteristics, power supply and regulator circuits, amplifier and oscillator circuits and basic semi-conductor theory. Use of test equipment will be emphasized. (Laboratory included.)

332. Semiconductor Bipolar Devices (3) F, S Brandstatt
Prerequisite: Industrial Arts 331. Theory and operation of diode devices and bipolar transistors. Both linear and digital applications will be presented. Basic circuit design, measurement and test equipment usage will be emphasized.

333. Electronic Communication (3) F, S Brandstatt, D. Smith
Prerequisite: Industrial Arts 331. Theory and operation of receivers, transmitters, modulators, antennas and related circuits. Specific applications for AM, FM and video communications will be presented including FCC licensing requirements. (Laboratory included.)

334. Special Solid State Devices (3) F Brandstatt
Prerequisite: Industrial Arts 331. Study of theory and circuit applications for field effect transistors, unijunction transistors, digital and linear integrated transistors, digital and linear integrated circuits and thyristors. (Laboratory included.)

430. Electronic Service and Repair (2) F, S D. Smith
Prerequisite: Industrial Arts 331. Repair and preventive maintenance of electronic and electrical equipment. (Laboratory included.)

432. Amateur Radio Licensing (2) S D. Smith
Code practice and theory to qualify for one of the following federal amateur radio licenses issued by the Federal Communications Commission: Novice, Technician, General, Advanced or Extra Class. Also to prepare students to sponsor amateur radio in schools. University Amateur Radio Station K6ZZQ is used in participation with live, on the air amateur stations throughout the world in the laboratory practice. (Laboratory included.)

433. Television and FM Principles (2) S D. Smith
Prerequisite: Industrial Arts 331, 332, or equivalent. Theory of FM and TV systems. Analysis of circuit operation and service techniques of modern receivers. (Laboratory included.)

Graphic Arts

Lower Division

151. Introduction to Graphic Arts (2) F, S Faculty
Principles of elementary typographic design and layout, type composition and press-work. Discussions and activities emphasize the letterpress, offset lithography, silk screen and intaglio printing processes, as well as bookbinding and paper manufacturing. (Laboratory included.)

Upper Division

351. Composition Methods in Graphic Arts (3) S Martin
Prerequisite: Industrial Arts 151. Advanced typographic design and layout. Discussions and activities emphasize newspaper and magazine layout, multiple run imposition methods, copyfitting, hot and cold composition methods and the composition of printing papers and inks. New techniques and developments in graphic arts included. (Laboratory included.)

352. Graphic Arts Photography (3) F, S Kunst
Photographic theory and operations related to graphic arts. Study of process camera in making line, halftone negatives and stats. Use of the vacuum frame and point light source for contacting and various proofing processes. Basic stripping operations presented. (Laboratory included.)

353. Design and Layout of Printing Forms (2) F Kunst
Principles of printing layout, type estimating and typographical specifications. Experience offered in designing typical display and commercial printing forms. (Laboratory included.)

354. Graphic Arts Handicrafts (2) S Kunst
Methods of producing printing designs with minimum equipment and facilities. Activities and projects specifically designed for recreation and junior high school graphic arts instructional programs. (Laboratory included.)

451. Duplicating Methods for Teachers (2) F, S Martin
Principles and utilization of duplicating machines and methods commonly found in school systems and how they may be used in preparing instructional materials. (Laboratory included.)

453. Graphic Arts Presswork (3) F Martin
Prerequisite: Industrial Arts 151. Principles and techniques of both letterpress and photo-offset presswork. Discussions and activities emphasize the theory, practice and problems of letterpress and photo-offset presswork. Development of technical knowledge of materials and methods. Practice in running increasingly complex jobs including multicolor work. (Laboratory included.)

454. Advanced Graphic Arts Photography (3) F Kunst
Prerequisite: Industrial Arts 352. Advanced presentation of photographic theory and practices common to the graphic arts field. Laboratory techniques to encompass the basic kinds of color separations. These include indirect and direct methods utilizing the enlarger, process camera and contact frame. Masking techniques to include both silver and dye masks. Experimental processes to be included. (Laboratory included.)

455. Graphic Arts Printing Production (3) S Kunst, Martin
Prerequisites: Industrial Arts 351, 352, 453 or consent of instructor. Principle of and experiences in printing production. Through lecture and laboratory experiences the course identifies and covers topics such as: production planning, cost estimating, job order planning and control, quality control, maintenance, purchasing and material control.

Industrial Crafts

Upper Division

371. Industrial Crafts I (3) F Nicholson
Materials of industry through creative experiences in the crafts media. Historical and industrial related information is included. (Laboratory included.)

471. Industrial Crafts II (3) S Nicholson
Prerequisite: Industrial Arts 371. Advanced studies of industrial crafts media. Emphasis on ceramics and lapidary. (Laboratory included.)

Metals

Lower Division

121. Basic Metalworking Processes (2) F, S Faculty
Properties of ferrous and non-ferrous metals, characteristics of hand and machine tools, and the basic processes of metal casting, machining, light metal fabrication and welding. (Laboratory included.)

Upper Division

321. Patternmaking and Casting Processes (3) F, S Genevro, E. Smith
Prerequisites: Industrial Arts 111, 121. Theory and practice in the patternmaking, coremaking and metalcasting processes, including green sand molding, shell molding, investment casting, permanent mold casting and applicable related processes. (Laboratory included.)

322. Welding I (2) F, S Patcha, E. Smith
Oxy-acetylene and electric welding principles and practice, welding equipment and principles of ferrous metallurgy. (Laboratory included.)

323. Machine Tools I (3) F, S Heineman, Patcha
Basic principles and practices in machining operations including bench work, drilling, lathe, milling, and grinding with emphasis on tool set-ups and procedures representative of industry. (Laboratory included.)

326. Metal Forming and Fabrication (3) F, S Patcha, E. Smith
Prerequisite: Industrial Arts 121. Principles and practices of hand and machine forming processes on light gauge ferrous and non-ferrous metals, production fabricating techniques and metal joining processes. (Laboratory included.)

422. Welding II (2) S Patcha
Prerequisite: Industrial Arts 322 or equivalent. Principles and practices of shielded metallic arc, gas tungsten arc, and gas metal arc welding, brazing processes and study of welding metallurgy. (Laboratory included.)

423. Machine Tools II (3) F, S Heineman
Prerequisite: Industrial Arts 323 or equivalent. Advanced machining and tooling operations including basic machine design, tool and cutter maintenance, numerical control (N/C) and electrical discharge machining (EDM). (Laboratory included.)

424. Advanced Metalworking Processes (2) S Genevro, Heineman
Prerequisites: Industrial Arts 121, senior or graduate standing, consent of instructor. Advanced metalworking theory and practice with emphasis on new industrial processes. The student will develop metal-working problems and projects to be used in teaching metals in the secondary schools. (Laboratory included.)

Photography

Lower Division

101. Basic Photography (2) F, S Faculty
A beginning course to familiarize students with the fundamentals of photography. Units pertaining to cameras, exposure meters, films, darkroom technique, lighting, portraiture and optics. Not open to students with credit in Photography 210. (Laboratory included.)

Upper Division

304. Advanced Photography (3) F, S Routh, Schmidt, Wittich
Prerequisite: Industrial Arts 101. Practical application of advanced camera and laboratory techniques. Microphotography, macrophotography, and photomicrography. Special lens applications, distortion and perspective control, Infra Red photography, reversal processing, specialized development, print toning, salon prints, panoramas and murals. An introduction to color photography. Advanced assignments directed toward student's major field of study. Not open to students with credit in Photography 310. (Laboratory included.)

306. Color Photography (2) F, S Routh
Prerequisite: Industrial Arts 101. Survey of current color materials and processes with emphasis on exposing, developing and printing. Contemporary approach to color photography will be stressed. (Laboratory included.)

308. History and Criticism of Photography (2) F Routh
Prerequisite: Industrial Arts 101. Determination of the history, aesthetics and criticism of still photography as an art form. Content presented in lectures, tapes, slides and films. Designed to help students evolve a philosophical approach to photography.

404. Commercial Photography (2) F Wittich
Prerequisite: Industrial Arts 101 or equivalent. Course designed to give exploration of camera and laboratory techniques as applied to advertising and commercial fields. Related photo assignments of studio and location problems will be given. (Laboratory included.)

405. Nature Photography (2) F, S Schmidt
Prerequisite: Industrial Arts 304 or consent of instructor. Course directed toward a representative sampling of imagemaking within the world of nature. Students will work in color and black and white. Will include infrared photography and macro techniques. Field trips will be utilized. (Laboratory included.)

406. Experimental Photography (2) S Schmidt
Prerequisite: Industrial Arts 101 or equivalent. Includes techniques in high contrast, line image, tone separation, solarization, multiple exposure and advanced printing with emphasis on an experimental approach. (Laboratory included.)

407. Documentary Photography (2) F Wittich
History, theory and practice of still documentary photography. Students will research, script and produce a documentary photo essay on a topic of social concern. Lectures and films will focus on the documentary still photograph as an instrument for social influence and change. (Laboratory included.)

408. Color Slide-Tape Presentations (2) S Wittich
Prerequisite: Industrial Arts 101. Planning and producing the slide-tape presentation, scripting, photography, sound recording and synchronization of color slides and tape. (Laboratory included.)

Plastics

Lower Division

170. Introductory Plastics (2) F, S Trusty
Study of thermoplastic and thermoset plastics; includes basic applications, manufacturing processes, economic comparisons and finishing techniques. (Laboratory included.)

Upper Division

370. Thermoplastics Materials and Processes (3) F, S Trusty
Prerequisite: Industrial Arts 170 or consent of instructor. Advanced studies of thermoplastic materials and related machine and mold types. Non-metallic mold construction and general mold maintenance will be emphasized. (Laboratory included.)

373. Plastic Machine Design and Maintenance (3) F Trusty
Prerequisite: Industrial Arts 170 or consent of instructor. Study of plastic machine operation, maintenance and repair. A complete study of hydraulic and pneumatic power as well as electric circuitry related to most machine operation. (Laboratory included.)

470. Thermoset Plastic Materials and Processes (3) F, S Trusty
Prerequisite: Industrial Arts 170 or consent of instructor. Advanced studies of thermoset plastic materials and related machine and mold types. Fiberglass mold and part fabrication will be emphasized. (Laboratory included.)

474. Plastic Machine Mold Design and Fabrication (3) S Trusty
Prerequisite: Industrial Arts 170 or consent of instructor. Complete study in plastic machine mold design and fabrication. This course also includes mold repair and maintenance.

Woods

Lower Division

111. Introductory Wood (2) F, S Faculty
Survey of basic wood processes, practices and apparatus with emphasis on the understanding of current principles and procedures. (Laboratory included.)

Upper Division

311. Industrial Coatings (2) F Macon
Development, manufacture and use of modern industrial coating, with emphasis on their application as protective and decorative substances for wood and allied materials. (Laboratory included.)

312. Machine Wood (3) F, S Macon, Quinones
Prerequisite: Industrial Arts 111 or equivalent. Basic principles and study of the proper care, selection, maintenance of power equipment, with emphasis on safety and proper technique and use of power machines as they relate to the industrial arts program. (Laboratory included.)

313. Wood Technology (2) S Quinones
Prerequisite: Industrial Arts 111 or equivalent. Applications, implications and values of wood and woodworking in our technological society, with emphasis upon understanding through study and experiment. (Laboratory included.)

411. Furniture (3) F, S Macon, Quinones
Prerequisite: Industrial Arts 312 or equivalent. Analysis of characteristics and principles of furniture designs, with emphasis on selection and construction of furniture, employing advanced hand and machine tool operations. (Laboratory included.)

412. Carpentry (2) F Macon
Prerequisite: Industrial Arts 111 or equivalent. Planning and techniques of estimating construction costs of building with the study of techniques involved in laying out and framing a structure. (Laboratory included.)

413. Upholstery (2) F Quinones
Methods of upholstery practices and use of tools and equipment employed in the process of upholstery. (Laboratory included.)

414. Boat Construction (2) S Macon
Prerequisite: Industrial Arts 312 or consent of instructor. Interpretation of line drawings and specifications, design and construction of forms, molds and hulls of straked, molded plywood and fiberglass systems. (Laboratory included.)

415. Industrial Wood (2) S Macon
Prerequisite: Industrial Arts 312. Comprehensive study of modern industrial woodworking, its production and management, from skilled hand craftsmanship to numerical automation, with emphasis on the operational functions and technical procedure involved. (Laboratory included.)

Graduate Division

590. Supervision and Administration in Industrial Education (3)

591. Curriculum Construction in Industrial Education (3)

592. Evaluation in Industrial Education (3)

593. Techniques in Teaching Industrial Education (3)

594. Modern Concepts in Industrial Education (3)

650. Seminar in Industrial Education (3)

696. Research Methods (3)

697. Directed Research (2)

698. Thesis (1-4)

Industrial Technology

Department Chair: Dr. Glenn E. Hayes.

Emeritus: James L. Young.

Professors: Brice, Hayes, Kleintjes, Robinson.

Associate Professors: Grossman, Krauser.

Assistant Professors: Harriston, Jarasunas, Johnson.

Lecturers: Cannon, Jarecki.

Academic Advising Coordinators:
Construction Option: Dr. Arthur W. Grossman.
Electronics Option: Mr. Roland Harriston.
Manufacturing Option: Mr. Emanuel Jarasunas.
Quality Assurance Option: Mr. Bud Johnson.
Special Programs: Mr. Emanuel Jarasunas.

The program in industrial technology is designed for the student who, through screening based upon evaluation of previous college work, job experience, testing and counseling, clearly demonstrates the aptitude and promise for high level technical work with related administrative and management responsibility. The following student groups are served by this program:

1. Transfer students from the community colleges who desire to earn the bachelor of science degree in their area of specialization.
2. Students who desire a change of objective from other occupational curricula.
3. Personnel currently employed who desire additional training and/or the bachelor's degree.

This curriculum, for degree purposes, is designed primarily to accommodate students who are able to transfer approved technical course credits earned at two or four-year colleges or approved military service schools. It is recommended that prospective students be advised by a member of the industrial technology faculty prior to submission of an application for admission to the program. No more than 24 approved technical credits, of grade C or better, can be transferred. Minimum requirements for admission to any option are determined in conference with an option adviser. Deficiencies in technical transfer credits may have to be completed at community colleges if not available on this campus. The transfer student follows the catalog current in his initial enrollment in the major until graduation.

There are four options in industrial technology.

Construction Technology. Qualifies a person to serve in expediting, coordination, inspection, specification and proposal writing, facilities planning and development, project management and associated work in the construction or manufacturing industries.

Electronics Technology. Qualifies a person to serve in methods, planning, facilities, development, production and quality control and specification and proposal writing in areas of the electronic and control industries.

Manufacturing Technology. Qualifies a person to serve in tooling, methods, facilities planning and development, specification and proposal writing and the quality, liaison and management aspects of production in manufacturing industries.

Quality Assurance. Qualifies a person to serve in reliability, quality control, quality assurance, inspection, metrology, configuration management and testing aspects of manufacturing enterprises.

In addition to the aforementioned options, the Industrial Technology Department offers baccalaureate certificate programs in the fields of safety, facilities management and quality control in the food, cosmetic and drug industries. Students desiring to pursue these fields should contact an adviser in the department for further information.

Industrial Technology Facilities

The new multimillion dollar building for industrial technology is designed with laboratories and modern equipment for instruction in foundry and pattern-making, metallurgy and heat treating, metrology, quality assurance, materials testing, structures and environment, modern processes including electro-chemical processes, electronic systems and testing, industrial electricity, plant layout and computers.

Industrial Technology Advisory Council

The advisory council, composed of leaders actively engaged in areas of technology with which the program is concerned, continually provides information and guidance about industrial developments in methods, materials and techniques so that the program reflects the best of current practices. The members examine various aspects of the program and make recommendations for changes in course content, methods and/or facilities. Present membership in the council is made up of representatives from the following industries or corporations.

Hoffman NavCom Systems
Dept. of Defense
McDonnell Douglas Corp.
Fluor Corporation
Northrop Nortronics
Hunt Wesson Foods
Security Pacific National Bank
Electronic Memories Corp.
Quality Audit Co.
Quickset Corporation
Rockwell International
Ford Aeroneutronics Corp.
Hughes Aircraft, Aerospace Group
Long Beach Naval Shipyard
Magnavox Development Laboratories
Classic Development Company
General Motors Corp.
Chrysler Corp.

Major in Industrial Technology for the Bachelor of Science Degree

A minimum grade of C is required in all major technical courses, calculus, chemistry and physics.

The Industrial Technology Department has two distinctive curriculum aspects. Students enrolled in any of the programs must complete a group of *core* courses. These subject areas cover the broad disciplines and functions of technical management. *Option* courses are designed to strengthen students in their field of concentration. The core courses together with the option requirements are requisites for the technical management role of the technologist.

The core courses are listed as follows: Industrial Technology 300, 301 (or 323 for construction option majors only), 307, 309, 311, 312, 315, 406, 407; Psychology 381.

Specific requirements for each option are indicated below:

Construction Technology Option (code 3-1080)

Accounting 201 or 202, Finance 222, 342; Chemistry 100; economics; plane surveying; English 100; Mathematics 117, 122, or 115 and 116; Philosophy 170 or 270; Physics 100A-B; industrial and architectural drafting and design (7 units), construction (7 units), transferable technical electives (7 units); all core courses; Industrial Technology 302, 304, 321, 322, 422, 423, 425, 435. Field work and general education requirements and electives selected in consultation with adviser, to total 128 units.

Electronics Technology Option (code 3-1081)

Accounting 201 or 202; Finance 222 (or equivalent); Management 300; Chemistry 100; economics; English 100; Mathematics 117, 122, or 115 and 116; Philosophy 170 or 270; Physics 100A-B; industrial drawing (3 units), machine tools (2 units); or Industrial Technology 344; all core courses; Industrial Technology 306, 340, 342, 343, 402, 408 or 491, 445, 492, and a minimum of three courses selected in consultation with the adviser from the following: Industrial Technology 313, 341, 369, 403, 404, 412, 442, 443, 444 or 447. Twenty-four units of transfer technical courses, field work, general education requirements and electives selected in consultation with adviser, to total 128 units.

Manufacturing Technology Option (code 3-1082)

Accounting 201 or 202; Management 300; Chemistry 100; economics; English 100; Finance 222; Mathematics 117, 122, or 115 and 116; Philosophy 170 or 270; Physics 100A-B; up to 24 transferable technical units to include drafting and design (8 units), foundry (2 units) or Industrial Technology 303, tool design (3 units), or Industrial Technology 364; machine shop (6 units), technical or related subjects (5 units); all core courses; Industrial Technology 302, 305, 306, 361, 362, 369, 402, 466 and nine units selected in consultation with the adviser from the following: Industrial Technology 313, 403, 404, 405, 408 or 491, and 412. Field work, general education requirements and electives selected in consultation with adviser, to total 128 units.

Quality Assurance Option (code 3-1083)

Accounting 201 or 202; Finance 222; Management 300; Chemistry 100; economics; English 100; Mathematics 117, 122, or 115 and 116; Philosophy 170 or 270; Physics 100A-B; up to 24 transferable technical units to include mechanical drafting (3 units), machine shop (3 units), from data processing, electronics, numerical control or industrial electricity (6 units), from the fields of quality control, testing and reliability (12 units); all core courses; Industrial Technology 306, 313, 361, 369, 402, 469, 470; Management 406; and a

minimum of three courses taken from Industrial Technology 370, 403, 404, 408 or 491, 409 or 412. Twenty-four units of transfer technical courses, field work, general education requirements and electives selected in consultation with adviser, to total 128 units.

Field Work Requirement. The industrial technology student must be employed by industry or approved government agency in a position equivalent to technician level or higher which allows the student to demonstrate responsibility usually afforded persons who have completed two years of college. This employment must be for a minimum of three months or its equivalent in time for part-time employment. This field work is a graduation requirement and must be certified and approved by the faculty of the Industrial Technology Department.

Upper Division

300. Industrial Communications (3) F, S Brice
Prerequisites: English composition and industrial drawing. Accurate, economical, rapid transmission and interpretation of information.

301. Materials of Industry (3) F, S Kleintjes
Prerequisites: Physics 100A,B, Chemistry 100. Properties and applications of industrial materials. (Lecture-discussion 2 hours, laboratory 2 hours.)

302. Industrial Electricity (3) F, S Krauser
Prerequisite: Physics 100B. Current practices in transmission, utilization and application of electrical power in industry. (Lecture-discussion 2 hours, problem session 2 hours.)

303. Foundry Technology (2) F, S Brice
Foundry practices and casting techniques used in industry. Not open to students with credit in Industrial Technology 365. (Laboratory 4 hours.)

304. Mechanics of Materials (3) F, S Krauser
Prerequisites: Mathematics 122, Physics 100A. Study of the basic laws of statics and dynamics, analysis of failures, stresses and deformation of structural and machine members.

305. Kinematics and Machine Design (2) F, S Grossman
Prerequisite: Introductory graphics, Physics 100A. Graphical approach to analysis and design of mechanisms through the study of displacement, velocity and acceleration of gears, cams and linkages. (Laboratory 4 hours.)

306. Processes of Industry (3) F, S Brice
Prerequisite: Industrial Technology 301. Methods used in industrial manufacturing and fabrication. (Lecture-discussion 2 hours, laboratory 2 hours.)

307. Industrial Safety (3) F, S Faculty
Industrial safety management and administration, including economic factors such as direct and indirect costs and workmen's compensation; accident investigation; survey of governmental regulations such as the Occupational Safety and Health Act (O.S.H.A.).

308. Systems Safety (3) On demand Faculty
Prerequisite: Industrial Technology 307. Safety assurance as it relates to management policies, work planning, design, manufacturing methods and the implementation of safety procedures.

309. Industrial Supervision (3) F, S Kleintjes
Types of industrial organizations and supervisory systems; responsibilities, duties and qualifications of the supervisor.

310. Industrial Hygiene (3) On demand Faculty
Prerequisite: Industrial Technology 307. Detection, analysis and control of health hazards that affect the body and the atmosphere in the industrial environment.

311. Introduction to Industrial Technology (1) F, S Harriston
Survey of the professional activities and environments of the industrial technologist. Course covers the role of the technologist in American industry, the history of technology and the growth and future of those professionals who hold the bachelor of science degree in industrial technology.

312. Quality Control Concepts (3) F, S Hayes, Johnson
Statistical quality control; control chart principles and techniques, sampling procedures; military standards as well as reliability theory and applications are covered. Not open to students with credit in Industrial Technology 471. (Lecture-discussion 3 hours.)

313. Metrology (3) F Faculty
Prerequisite: Industrial Technology 306. Instrument calibration, standards and precision measurement for quality assurance and reliability. (Lecture-discussion 2 hours, laboratory 2 hours.)

315. Computer Applications (3) F, S Krauser
Prerequisite: Course in logic. Survey of computer applications to business, manufacturing, research and simulation. Not open to students with credit in Industrial Technology 410. (Lecture-discussion 2 hours, laboratory 2 hours.)

320. Materials Handling (3) On demand Hayes
Prerequisite: Industrial Technology 306. Work simplification in movement of materials in production.

321. Construction Cost Estimating (3) S Grossman, Faculty
Prerequisite: Architectural or construction drafting. Methods of estimating costs. Construction cost forecasting utilizing quantity surveys of equipment, labor and materials.

322. Functional Building Systems (3) S Grossman
Prerequisite: Lower division construction requirements met or in progress. Principles and current practices in heating, ventilating, air conditioning, vertical transportation and architectural acoustics. (Lecture-discussion 3 hours.)

323. Materials for Construction (3) F, S Kleintjes
Prerequisites: Physics 100A-B, Chemistry 100. Properties, applications and economics of materials of specific interest to the construction industry. (Lecture-discussion 2 hours, laboratory 2 hours.)

340. Solid-State Electronics I (3) F, S Harriston
Prerequisites: Physics 100A-B, equivalent to Mathematics 116, 16 units of electronics. Analysis and design of solid-state electronic circuits utilizing bipolar, unijunction, field-effect and 4-layer control devices. (Lecture-discussion 2 hours, problem session 2 hours.)

341. Opto-Electronics (3) On demand Faculty
Prerequisites: Physics 100B, Industrial Technology 340. Survey of optical electronics covering light emitting and amplifying devices and systems, coherent light systems including lasers and their applications in modern communications and industry. Emphasis is placed upon electronic systems design utilizing opto-couplers, isolators, detectors and emitters. (Lecture-discussion 2 hours, laboratory 2 hours.)

342. Solid-State Electronics II (3) F, S Harriston, Faculty
Prerequisite: Industrial Technology 340. Analysis and design of solid-state electronic circuits utilizing linear integrated circuits, including operational amplifiers, demodulators, phase-locked loops and timers. (Lecture-discussion 2 hours, laboratory 2 hours.)

343. Electronic Testing and Troubleshooting (2) F, S Faculty
Prerequisite: Industrial Technology 342. Modern testing requirements, procedures and instrumentation; logical troubleshooting of industrial electronic circuitry. Not open to students with credit in Industrial Technology 341. (Laboratory included.)

344. Machine Tools (2) F, S Brice
Operations and use of the conventional machine tools. For electronics option only. (Laboratory 4 hours.)

361. Industrial Metallurgy (2) F, S Jarasunas
Prerequisite: Industrial Technology 301; recommended: 369. Current and emergent applications of metallurgy to manufacturing of modern hardware. (Metallographic laboratory included.)

362. Heat Treating (2) F, S Brice
Prerequisite: Industrial Technology 361. Theory and applications of thermal treatment processes to non-ferrous and ferrous metals with resulting changes in properties as used in current production. (Laboratory included.)

364. Industrial Tooling (3) F Brice
Prerequisite: Industrial Technology 305. Design and fabrication of tools for production. Typical tooling problems will include working drawings, production plans and tool drawings and hardware. (Lecture-discussion 2 hours, laboratory 2 hours.)

369. Quality Assurance I (3) F, S Hayes
Prerequisite: Industrial Technology 306. An overview of quality assurance principles and practices in industry, including management concepts, inspection practices, costs of quality and testing functions. (Lecture-discussion 3 hours.)

370. Food, Drug and Cosmetic Quality Control (3) F Hayes, Faculty
Technical disciplines and requirements for the control of quality of foods, drugs and cosmetics; regulatory laws governing these fields as well as the accepted practices of quality control are covered. (Lecture-discussion 3 hours.)

375. Industrial Instrumentation (3) S Krauser
Prerequisite: Physics 100B. Techniques in measurement of physical quantities with emphasis on methods and equipment relating to industrial control and processing. Not open to students with credit in Industrial Technology 404. (Lecture 2 hours, laboratory 2 hours.)

402. Production Analysis (3) F, S Hayes
Prerequisite: Industrial Technology 306. Simplification of manufacturing operations; motion and time study, standards, planning and control; emphasis on operations analyses for optimum production economy.

403. Procurement (3) F Brice, Faculty
Prerequisites: Industrial Technology 301 and accounting. Examination of the acquisition function within the industrial complex. (Lecture-discussion 3 hours.)

405. Plant Planning and Layout (3) S Faculty
Prerequisite: Drafting (306 recommended). Planning practices, procedures and requirements for laying out industrial facilities. (Lecture-discussion 2 hours, laboratory 2 hours.)

406. Proposals and Specifications (3) F, S Johnson
Prerequisite: Industrial Technology 300. Developing the technical knowledge necessary to structure an industrial proposal in logical stages. An analysis of the different forms of letters of transmittal, inquiry, bidding specifications and a diagnosis of the financial, technical and management aspects of a proposal, leading to a contract. (Lecture-discussion 3 hours.)

407. PERT/CPM (3) F, S Grossman
Prerequisites: Industrial Technology 306 or Construction Methods, Industrial Technology 315 and logic. Planning, scheduling and project control by the critical path and other forecasting techniques using manual and computer methods. (Lecture-discussion 3 hours.)

408. System Technology (2) F Johnson
Prerequisites: Industrial Technology 402, 406. Management and technology of operating a manufacturing company. System planning and analysis; principles and practices of achieving economic control. (Lecture-discussion 2 hours.)

409. Senior Problems in Industrial Technology (1-3) F, S Faculty
Prerequisites: Senior standing in industrial technology, consent of instructor. Advanced work of a technical nature within an area of specialization done on an experimental or research basis. (A) Construction Technology, (B) Electronics Technology, (C) Manufacturing Technology, (D) Quality Assurance.

412. Production Costing and Budgeting (3) On demand Johnson
Prequisites: Accounting, calculus, Industrial Technology 306, 402. Estimation of cost data needed for management planning, decision and control functions. Standard cost data for forecasting, scheduling, inventory, quotation. Working plan flexible budget, variance controls. (Lecture-discussion 2 hours, laboratory 2 hours.)

422. Mechanical Equipment for Buildings (3) F Grossman, Faculty
Prerequisite: Lower division construction requirements met or in progress, Industrial Technology 302 (may be taken concurrently). Techniques in the art and science of water supply, plumbing, storm drain, fire protection and illumination systems. (Lecture-discussion 3 hours.)

423. Site Analysis and Development (3) F Grossman, Faculty
Prerequisite: Lower division construction requirements met or in progress. Surveying. Current practices in the analysis and development of residential and industrial sites. Includes soil mechanics, earthmoving and equipment economics. (Lecture-discussion 3 hours.)

425. Construction Methods (3) F Grossman
Prerequisites: Industrial Technology 304, 423 (may be taken concurrently). Current practices in structural design, fabrication, and erection; materials, methods and equipment used in industrial and commercial building construction.

435. Construction Project Management (3) S Grossman
Prerequisites: Lower division construction requirements met or in progress, Industrial Technology 407 and business law. Theory and fundamentals of construction management including California Contractors License Law. (Lecture-discussion 3 hours.)

442. Computer Circuits (2) S Johnson, Krauser
Prerequisites: Industrial Technology 342, Philosophy 170 or 270. Analog and digital computers, with emphasis on digital systems, number systems and computer logic, control, arithmetic and memory devices. (Laboratory included.)

443. Electronic Systems (3) S Harriston
Prerequisite: Industrial Technology 342. Block diagram approach to electronic systems, including computers, guidance, process control, data handling, navigation. (Lecture-discussion 3 hours.)

444. Advanced Electronic Communications (3) S Faculty
Prerequisite: Industrial Technology 342. Advanced communications, telemetry; radio, radar, microwave, navigational and laser systems. (Lecture-discussion 3 hours.)

445. Microelectronics (3) F Johnson
Prerequisite: Industrial Technology 342. Design, processing and applications of monolithic and hybrid microcircuits for analog and digital systems. (Lecture-discussion 2 hours, laboratory 2 hours.)

466. Welding Metallurgy (2) F, S Brice, Faculty
Prerequisite: Industrial Technology 362. Theory and applications of current and emergent joining processes with consideration of weldability of metals and thermal effects on properties. Welding techniques in selected processes exercised in laboratory. (Laboratory 4 hours.)

469. Quality Assurance II (3) S Hayes
Prerequisite: Industrial Technology 369. Management aspects of quality assurance organizations, planning, controlling, directing and maintaining quality functions. (Lecture-discussion 3 hours.)

470. Testing of Materials (3) S Faculty
Prerequisite: Industrial Technology 369. Testing of materials, including both destructive and non-destructive procedures. (Lecture-discussion 1 hour, laboratory 4 hours.)

490. Electronic Packaging and Design (3) S Harriston
Prerequisites: Industrial Technology 301, 306. An in-depth study of the techniques, processes and materials used in the design and packaging of electronic systems. Covers the fabrication of printed circuit assemblies, conformal coating techniques and materials, automated system assembly of electronic equipment, potting and encapsulating techniques for electronics. (Lecture-discussion 2 hours, laboratory 2 hours.)

491. Problems in Production Technology (3) On demand Johnson
Prerequisites: Industrial Technology 402, 406; recommended industrial experience. Problems in production technology: current problems will be identified, solutions proposed and evaluated and recommendations developed and presented. (Lecture-discussion 3 hours.)

492. Advanced Studies in Technology (3) On demand Faculty
Prerequisite: Consent of instructor. Advanced work done within the area of specialization designed for the industrial technologist who desires upgrading in his or her field of concentration. Covers new information in or related to industrial technology. May be repeated for a maximum of six units provided the subjects are not the same.

Nursing

Department Chair: Dr. Joan Cobin.

Emeritus: Dorothy L. Walsh.

Professors: Bullough, Cobin, Hoffman, Kaufman, Lackey, Pentecost, Sucher.

Associate Professors: Koehler, Mayberry, Meisenheimer, Moore, Roberts, Seigel.

Assistant Professors: Cleveland, Ford, Jasmin, Mullins, Nelms, Sakamoto, Timpke, White.

Lecturers: Bertholf, Brady, Brault, Burke, Child, Deitch, Hill, Janney, Morgan, Murphy, Schwartz, J. Smith, N. Smith, Truby, Watts.

Academic Advising Coordinators:
Basic Students: Mrs. Elaine White.
R.N. Students: Ms. Sylvia Jasmin.
Graduate Students: Dr. Bonnie Bullough.

Bachelor of Science in Nursing

The baccalaureate program offers courses that prepare the student to become a professional nurse. Two distinct categories of students are eligible for admission: The "basic student" who enters the University without having completed a first level nursing program and the "registered nurse student" who, having completed a course of study at the first level, desires further study to expand her or his nursing capabilities to the professional level. Though each category of student enters at different levels, the terminal objectives of the nursing program are the same for both groups. The "basic student" upon completion of specific courses is eligible to write the examination for licensure to practice as a registered nurse. All graduates are recommended for certification as a public health nurse in the State of California. The program is accredited by the California State Board of Registered Nursing and the National League for Nursing.

The purpose of the bachelor of science program in nursing is to prepare graduates to function as a professional nurse in the primary care role in a variety of settings. Graduates are expected to have acquired foundations for continuing professional development.

The curriculum is formulated to help the student develop understanding of self and others, intellectual curiosity and ability to work with colleagues to identify and resolve the health problems of individuals and families in a changing

society. The professional nurse, while able to assess and intervene where health deviations exist, is committed to the role of maintaining health and preventing illness in self and others.

Requirements for Admission

Students must apply for admission to the University as a nursing major. The number of applicants to nursing exceeds the number that can be accepted. For this reason nursing applicants are subject to criteria in addition to those required for admission to the University. Those accepted with nursing as a major are admitted subject to the approval of the Nursing Department faculty. The "basic student" may apply as a new or transfer student.

Basic Student

Once admitted to the University basic students are required to do the following prior to acceptance into the nursing program.

1. Earn a G.P.A. of 2.5 or better for all prerequisite courses.
2. Complete a series of tests that assess their ability for logical thinking and problem solving.
3. Have a personal scheduled interview with a designated nursing faculty member.
4. Have transportation available for travel to extended campus clinical facilities.
5. Obtain malpractice insurance (available through membership in Student Nurse Association, SNAC).
6. Submit transcripts of any previous college work to Nursing Department as well as to the admissions Office.

Further information regarding admission to nursing courses is available to nursing majors upon acceptance into the University from their assigned nursing adviser.

Registered Nurse Student

To be admitted to the University Registered Nurse Program, applicants are required to do the following:

1. Hold a current license to practice nursing in California.
2. Have 56 transferable units that include General Education requirements.
3. Obtain malpractice insurance.
4. Have completed two social science courses and six units of natural science courses with a grade of C or better in each.
5. Complete a series of tests for critical thinking and problem solving by appointment with Testing Office.
6. Attend a group counseling session for R.N. students and complete a student profile.
7. Submit transcripts of any previous college work to the Nursing Department as well as to the Admissions Office.

Further information regarding admission to nursing courses is available to nursing majors upon acceptance into the University from their assigned nursing adviser. Graduates of diploma schools of nursing are urged to seek information /admission to a community college that offers the opportunity to earn credit for diploma nursing course of study.

Course of Study

The student must have an overall G.P.A. of 2.0 at the time of application for the nursing program.

A specific combination of general education, prerequisite, nursing and elective courses totaling 128 units are required for graduation.

All courses in the nursing program must be taken in sequence. In general the number assigned to each nursing course indicates where it occurs in the sequence. Admission to the first course is by application which will be accepted upon successful attainment of the criteria listed above. The last date to file course applications for each semester will be available in the Nursing Department. Progress in the nursing major requires that students maintain a cumulative 2.0 grade point average on all units attempted and attain a minimum of a C grade in each of the nursing courses as well as all required support courses. The student who earns less than a grade of "C" must repeat that course prior to being admitted to the next course in sequence. A nursing course may be repeated one time. The nursing sequence of courses requires a minimum of six semesters for the "basic student" and four semesters for the "R.N. student."

Basic (code 3-1072)

Lower Division: Chemistry 200, Biology 208, 209, Microbiology 210, two social science courses*, Nursing 200, 200L, 201, 250, 250L, 252, 252L.

Upper Division: Chemistry 300, Biology 345, Microbiology 345, statistics*, Nursing 300, 300L, 302, 302L, 307, 350, 350L, 352, 352L, 357, 400, 400L, 402, 402L, 450, 450L, 452, 452L.

R.N. (code 3-1072)

Lower Division: Completion of Associate Degree including completion of general education requirements and California R.N. license.

Upper Division: Chemistry 300, Biology 345, Microbiology 345, statistics*, Nursing 305, 305L, 307, 355, 355L, 357, 400, 400L, 402, 402L, 450, 450L, 452, 452L.

Lower Division

150. Explorations in Nursing (2) F, S Truby
Prerequisite: Consent of instructor. Discussion of current issues in nursing with the student's identification of personal learning needs and goals. Investigation of the evolution of nursing, areas in which nursing is involved, and the impact of culture, ethnicity and society upon nursing today. Evaluation on Credit/No Credit basis.

150L. Explorations Laboratory (1) F, S Truby

200. Health Skills (4) F, S Meisenheimer
Prerequisites: Sophomore standing, Biology 208, 209, Microbiology 210, Chemistry 200, two social science courses (6 units), consent of instructor. Co-requisites: Nursing 200L, 252, 252L. Identification of physical and social science principles which provide the basis for beginning level nursing theory and practice. Introduction to nursing process as the framework for nursing therapy. (Lecture-discussion 4 hours.)

200L. Health Skills Laboratory (2) F, S Meisenheimer
Prerequisites: Sophomore standing, Biology 208, 209, Microbiology 210, Chemistry 200, two social science courses (6 units), consent of instructor. Co-requisites: Nursing 200, 252, 252L. Directed application of beginning level nursing theory in a laboratory setting utilizing the nursing process in patient care delivery. (Laboratory 6 hours.)

*Any upper division course acceptable.

201. Legal Aspects of Health Care (2) F Mayberry
Prerequisites: Microbiology 210, Nursing 200, 200L, 252, 252L, consent of instructor. Co-requisites: Chemistry 300, Nursing 250, 250L. Legal responsibilities of professional personnel are considered relative to delivery of health services. Legal control of licensure and nursing practice is emphasized. (Lecture-discussion 2 hours.)

250. Clinical Health Skills (4) F, S Janney
Prerequisites: Microbiology 210, Nursing 200, 200L, 252, 252L, consent of instructor. Co-requisites: Chemistry 300, Nursing 201, 250L. Presentation of theory for assessment and intervention of client's physiological and psychosocial health care needs using the nursing process. (Lecture-discussion 4 hours.)

250L. Clinical Health Skills Laboratory (2) F, S Janney
Prerequisites: Microbiology 210, Nursing 200, 200L, 252, 252L, consent of instructor. Co-requisites: Chemistry 300, Nursing 201, 250. Assist the student to synthesize knowledge and gain skill in selected nursing activities through supervised practice with simulated learning experiences and in an acute care facility. (Laboratory 6 hours.)

252. Human Awareness in the Health Professions (2) F, S Faculty
Prerequisite: Consent of instructor. Co-requisites: Nursing 200, 200L, 252L, Microbiology 210. Awareness of self and others through the application of various theories to intra- and interpersonal relationships with emphasis on health professional-client interactions.

252L. Human Awareness in the Health Professions Laboratory (1) F, S Faculty
Prerequisite: Consent of instructor. Co-requisites: Microbiology 210, Nursing 200, 200L, 252. Practical projects in observation, assessment and intervention provide opportunities for application of theory of interpersonal skills. (Laboratory 3 hours.)

300. Nursing Process I (2) F, S Cleveland, Deitch, Smith
Prerequisites: Nursing 250, 250L, 201, Chemistry 300, consent of instructor. Co-requisites: Nursing 300L, 302, 302L, 307, Microbiology 345. Exploration of psychosocial concepts, cultural and environmental influencing factors relative to wellness-illness of individuals and family groups. Group interaction is directed toward development of self awareness as well as development of professional role. (Lecture-discussion 2 hours.)

300L. Nursing Process Laboratory I (6) F, S Cleveland, Deitch, Smith
Prerequisites: Nursing 250, 250L, 201, Chemistry 300, consent of instructor. Co-requisites: Nursing 300, 302, 302L, 307, Microbiology 345. Experience in using established nursing interventions to assist man to manipulate a moderate number of overt and covert variables which interfere with his adaptation on the health-illness continuum. The use of some alternative nursing interventions will be encouraged. (Laboratory 18 hours.)

302. Clinical Studies I (2) F, S Cleveland, Deitch, Smith
Prerequisites: Nursing 250, 250L, 201, Chemistry 300, consent of instructor. Co-requisites: Nursing 300, 300L, 302L, 307, Microbiology 345. Group interaction concerned with synthesis of knowledge and experience comparing and contrasting trends in nursing interventions in a variety of situations and clinical settings. (Lecture-discussion 2 hours.)

302L. Clinical Studies Laboratory I (1) F, S Schwartz
Prerequisites: Nursing 250, 250L, 201, Chemistry 300. Co-requisites: Nursing 300, 300L, 302, 307, Microbiology 345. Study of basic techniques of history taking and physical assessment which are used by the nurse in identification of patient problems. Includes demonstration and practice of physical assessment methodology. (Laboratory 3 hours.)

305. Nursing Assessment I (2) F, S Hill, Jasmin
Prerequisites: Current California Registered Nurse license, AD and consent of instructor. Co-requisites: Nursing 305L, 307, Chemistry 300, Microbiology 345. Use of concepts and theory to structure assessment and intervention with emphasis on the psychosocial modes of adaptation. Included are selected concepts of communication, psychological and social assessment, influencing factors, selected intervention theory, group and family dynamics and the use of research findings in nursing. (Lecture-discussion 2 hours.)

305L. Nursing Assessment Laboratory I (2-5) F, S Hill, Jasmin
Prerequisites: Current California Registered Nurses' license, AD and/or consent of instructor. Co-requisite: Nursing 305. Guided assistance to help the student identify and continue development of individual strengths and competence in nursing practice. Emphasis is on communication skills both individual and in groups as well as the development and use of assessment tools for individuals and families. (Laboratory 6-15 hours.)

307. Human Life Cycle I (3) F, S Nelms
Prerequisites: Junior standing, consent of instructor. Co-requisite: Nursing 300 or 305, or R.N. admitted as a nurse major. Study of the physiological, social, intellectual and emotional development of persons as individuals and as family members from birth through adolescence. (Lecture-discussion 3 hours.)

350. Nursing Process II (2) F, S Child, Ford, Murphy
Prerequisites: Nursing 300, 300L, 302, 302L, 307; Microbiology 345. Co-requisites: Nursing 350L, 352, 352L, 357; Biology 345. Group interaction drawing on knowledge and experience from a variety of situations and clinical settings. Content is focused on the nursing process and includes the decision making process, group dynamics and leadership skills. (Lecture-discussion 2 hours.)

350L. Nursing Process Laboratory II (6) F, S Child, Ford, Murphy
Prerequisites: Nursing 300, 300L, 302, 302L, 307; Microbiology 345. Co-requisites: Nursing 350, 352, 352L, 357; Biology 345. Application of theory to clinical practice assisting individuals of various cultural and age groups to manipulate multiple variables that interfere with basic physiologic and psychosocial needs. Anticipation of nursing problems, assessment and nursing diagnosis, implementing and evaluating nursing interventions, is the framework for this laboratory. Emphasis is on student responsibility for own learning and behavior including dependent and interdependent relationships with other health team members. (Laboratory 18 hours.)

352. Clinical Studies II (2) F, S Child, Ford, Murphy
Prerequisites: Nursing 300, 300L, 302, 302L, 307; Microbiology 345. Co-requisites: Nursing 350, 350L, 352L, 357; Biology 345. Theory base for assessment of an individual's position on the wellness-illness continuum by objective description of behaviors and identification of overt and covert biopsychosocial variables. The emphasis will be acute pathological changes across various cultural and age groups. (Lecture-discussion 2 hours.)

352L. Clinical Studies Laboratory II (1) F, S Schwartz
Prerequisites: Nursing 300, 300L, 302, 302L, 307; Microbiology 345. Co-requisites: Nursing 350, 350L, 352, 357; Biology 345. Advanced study of basic techniques of history taking and physical examination which are used by the nurse in identification of patient problems. Includes demonstration and practice of physical assessment methodology. (Laboratory 3 hours.)

355. Nursing Assessment II (2) F, S Hill, Jasmin, Smith
Prerequisites: Nursing 305, 305L, Chemistry 300, Microbiology 345. Co-requisites: Nursing 355L, 357, Biology 345, consent of instructor. Role of nurse in facilitating adaptation toward optimum health for individuals and families. Particular emphasis on physical assessment, clinical nursing assessment and exploration of expanded role of the nurse. (Lecture-discussion 2 hours.)

355L. Nursing Assessment Laboratory II (2-5) F, S Hill, Jasmin, Smith
Prerequisites: Nursing 305, 305L, consent of instructor. Co-requisite: Nursing 355. Guided learning experiences to develop individual strengths and competence in nursing practice; with integration of psychosocial and physiological concepts. (Laboratory 6-15 hours.)

357. Human Life Cycle II (3) F, S Pentecost
Prerequisites: Junior standing, Nursing 307, consent of instructor. Co-requisite: Nursing 350 or 355 or R.N. admitted as a nursing major. Study of the physiological, social, intellectual and emotional development of persons as individuals and as family members from young adulthood through old age. (Lecture-discussion 3 hours.)

400. Nursing Process III (2) F, S Lackey, Watts, White
Prerequisites: Nursing 350, 350L, 352, 352L, 357; Biology 345, (Nursing 355, 355L for R.N.'s in place of Nursing 350, 350L, 352 and 352L) and consent of instructor. Co-requisites: Nursing 400L, 402, 402L. Study of the economics of health care and the health delivery systems with emphasis on the role of nursing within these systems. Emphasis is upon less well defined problems and their causes, more original and creative nursing interventions and more in-depth study of the involvement of families and the community as cause-effect-therapeutic agents in patient problems and care. (Lecture-discussion 2 hours.)

400L. Nursing Process Laboratory III (1) F, S Lackey, Watts, White
Prerequisites: Nursing 350, 350L, 352, 352L, 357; Biology 345, (Nursing 355, 355L for R.N.'s in place of Nursing 350, 350L, 352, 352L, 402L) and consent of instructor. Co-requisites: Nursing 400, 402, 402L. Experience in assisting individuals, families and communities to make positive adaptations to complex health problems involving multiple variables and posing many possible nursing interventions. Emphasis on planning and implementing appropriate nursing interventions, evaluation of care, utilization of the health care systems, and creating new approaches to solving health problems. (Laboratory 3 hours.)

402. Clinical Studies III (2) F, S Lackey, Watts, White
Prerequisites: Nursing 350, 350L, 352, 352L, 357; Biology 345, (Nursing 355, 355L for R.N.'s in place of Nursing 350, 350L, 352 and 352L) and consent of instructor. Co-requisites: Nursing 400, 400L, 402L. Group interaction which focuses on diversified and/or permanent interruptions in the health-illness continuum and associated nursing care in non-acute institutions and community facilities. Emphasis on the variety of life styles and diversified ethnic groups. (Lecture-discussion 2 hours.)

402L. Clinical Studies Laboratory III (4) F, S Lackey, Watts, White
Prerequisites: Nursing 350, 350L, 352, 352L, 357; Biology 345, (Nursing 355, 355L for R.N.'s in place of Nursing 350, 350L, 352 and 352L), consent of instructor. Co-requisites: Nursing 400, 400L, 402. Evaluating multiple and diversified health problems (both temporary and permanent) of individuals, families and communities representing a variety of life styles with emphasis on care outside of acute care institutions. Experience will be provided to evaluate indicated and creative nursing interventions in a variety of settings. (Laboratory 12 hours.)

450. Nursing Process IV (2) F, S Moore
Prerequisites: Nursing 400, 400L, 402, 402L, course in statistics, consent of instructor. Co-requisite: Nursing 450L. The relationship of the nursing process using research methodology, teaching and learning theory in selected clinical settings. (Lecture-discussion 2 hours.)

450L. Nursing Process Laboratory IV (1) F, S Kaufman, Roberts
Prerequisites: Nursing 400, 400L, 402, 402L, consent of instructor. Co-requisite: Nursing 450. Completion of a research design in a clinical area selected by the individual student. (Laboratory 3 hours.)

452. Clinical Studies IV (2) F, S Brady, Kaufman, Moore, Roberts, Sucher, Watts
Prerequisites: Nursing 400, 400L, 402, 402L, consent of instructor. Co-requisite: Nursing 452L. Exploration of didactic and experimental material specific to an area of concentration selected by the student. (Lecture-discussion 2 hours.)

452L. Clinical Studies Laboratory IV (4) F, S Brady, Kaufman, Moore, Roberts, Sucher, Watts
Prerequisites: Nursing 400, 400L, 402, 402L, consent of instructor. Co-requisite: Nursing 452. Experience in developing expertise by using the nursing process in the student's area of clinical concentration. (Laboratory 12 hours.)

490. Independent Study (1-3) On demand Faculty
Prerequisite: Consent of instructor. Students will carry out the research process under the supervision of a faculty member in the investigation of an appropriate interest. May be repeated up to a maximum of six units.

499. Special Topics in Nursing (1-3) On demand Faculty
Prerequisite: Consent of instructor. Course or group studies of various parameters related to health care. May be repeated up to a maximum of six units.

Graduate Division

555. Critical Issues in Nursing (2)

556. Theoretical Concepts in Nursing (2)

556L. Theoretical Concepts of Nursing Education Laboratory (1)

557. Nursing Interaction with the Elderly (3)

558. Nurse Advocate and the Elderly Client (3)

660A,B. Clinical Nursing Seminar (3,3)

680A,B,C. Extended Nursing Roles (3,3,3)

680L. Clinical Studies in Nursing (3,3,3)

696. Research Methods (3)

698. Thesis (1-4)

Physical Education

Department Chair: Dr. Marguerite A. Clifton.

Emeriti: Corinne J. Crogen, Marcel J. DeLotto, Dorothy L. Ericson, Earl C.Kidd, Carl E. Klafs, Jack E. Montgomery, C. Patricia Reid.

Professors: Arnheim, Bartlett, Boring, Comer, Crowe, Deatherage, Fornia, Griffith, Lyon, McConnell, Mastropaolo, Miller, Morgan, Patterson, Pestolesi, Rose, Sandefur, Schaafsma, Schwartzkopf, Stock, Wuesthoff.

Associate Professors: Campbell, DuPont, Edmondson, Franklin, Gonsalves, Grimmett, Jochums, Lindsey, Redmon, Reed, Schultz, Sinclair, Souter, D. Toohey, Wurzer.

Assistant Professors: Baker, Glass, Leach, Royal, Takei, M. Toohey.

Athletic Coaches: Allice, Bailey, Chandler, Cullum, Currey, Donlan, Jones, Keele, Montgomery, Moore, Rodriguez, Rowen, Shaw, Youngs.

Credential Advisers: Dr. Tom Morgan, Dr. L. LaVonne Stock.

Academic Advising Coordinators:
Physical Education: Mr. Ken Bartlett, Ms. Barbara Franklin.
Athletic Training and Corrective Therapy: Dr. Daniel Arnheim.
Adapted Physical Education: Mr. Fred Rodriguez.
Community Physical Fitness: Mr. Ed Souter.

The Department of Physical Education offers programs designed (1) to meet the professional needs of prospective physical education teachers, and (2) to provide a desirable program of elective activities in general education. Courses are offered which satisfy the following requirements: (1) physical education major leading to a teaching credential; (2) the bachelor of arts degree with a major or minor in physical education or a minor in elementary school physical education; (While the major is designed primarily for the student who wishes to teach in the public schools, programs for those not wishing to teach are available through advisement.); (3) the master of arts degree in physical education.

The department also assumes the responsibility for meeting the needs and interests of the college student through offering a wide variety of courses in sport, dance and recreational activities, credit for which may be applied toward the fulfillment of general education requirements.

It is required that each new student enrolling in the University have on file at the Student Health Service a health history record completed by the student. A

physical examination is no longer mandatory for an entering student. Students enrolling in physical education assume the responsibility for satisfactory health status appropriate for class activity.

Students pursuing a degree under Track I will be required to show skill proficiency and knowledge in all areas offered in the CSULB lower division program prior to graduation or student teaching. Other proficiency examinations may be administered by the department to determine the student's progress and eligibility for student teaching. Students pursuing a degree under Track IIA or B who desire to waive any lower division skills courses may do so. This procedure involves a written and practical examination in the course to be waived. A petition for this procedure must be filed at the Office of Admissions and Records. The examinations are given during registration week at the beginning of each semester. Further information regarding proficiency waiver or waiver by examination for all tracks is available in the department office.

Major in Physical Education for the Bachelor of Arts Degree

Required of All Students:

Lower Division: Physical Education 222 (formerly PE-M 211 and PE-W 221), 275; Biology 202, 207.

Upper Division: Physical Education 303, 322 (formerly PE-M 315 and PE-W 323), 333, 335, 401, 437.

In addition to the above-required courses, students must complete Track I, Track IIA or Track IIB.

Track I (code 2-1201)

Lower Division: Physical Education 212, 224, 225, 241, 242, 243, 244, and 246.

Upper Division: Physical Education 370, 380 (formerly PE-M 480), 410, 420, 433; one selected from Physical Education 441 (formerly PE-M 311), 443 (formerly PE-M 312), 444 (formerly PE-M 313); one selected from Physical Education 484, 485, 486, 487.

Track IIA Elementary Program (code 2-1201)

Lower Division: 12 units in activity-related course work including aquatics (two units), Physical Education 241 or 248; Dance (four units), Physical Education 261 and two units from Physical Education 181, 185, 186; Fitness and Combatives (two units) from Physical Education 140, 144, 150, 220; Individual and Dual Activities (two units), Physical Education 213A and 215A; Team Activities (two units), one unit from Physical Education 252, 253, 254, and one unit from Physical Education 255, 256, 257.

Upper Division: Physical Education 321A, 370, 373, 378, 403, 422, 474, 475, and two units from the following: Physical Education 310, 311, 312, 352, 354, 356, 360, 413, 414, 415, 416, 442, 453, 455, 457, 460, 461.

Track IIB Secondary Program (code 2-1201)

Lower Division: 16 units in activity-related course work including aquatics (two units), Physical Education 241 or 248; Dance (three units), Physical Education 261 and Physical Education 181 or 185 or 186; Fitness and Combatives (two units) from Physical Education 106, 144, 149; Individual and Dual Activities (three units) from Physical Education 210, 211, 212, 213A, 214, 215A; Team Activities (three units), one unit from Physical Education 252, 253, 254; one unit from Physical Education 255, 256, 257; one additional unit from any of the courses in this area; electives (three units)

from Physical Education 213B, 215B or any course listed above, or any general education course not taught as a major course.

Upper Division: Physical Education 321B, 403, 422, and eight units distributed among a minimum of three of the following categories: Aquatics, Physical Education 442; Individual and Dual Activities, Physical Education 310, 311, 312, 413, 414, 415; Team Activities, Physical Education 352, 354, 356, 453, 455, 457; Dance, Physical Education 360, 460, 461; Fitness and Combatives, Physical Education 416.

Minor in Physical Education—Elementary

A minimum of 20 units as follows: Physical Education 275, 303, 322, 370, 373, 378, 475; Physical Education 321A or 488; Physical Education 220 or 304.

Minor in Physical Education—Coaching

A minimum of 20 units which must include Physical Education 304, 380 (formerly PE-M 480), 420, 433, 482; four-six units selected from the following: Physical Education 346, 441 (formerly PE-M 311), 443 (formerly PE-M 312), 444 (formerly PE-M 313), 484, 485, 486, 487; one-three units of elected courses in physical education designed for individuals interested in coaching.

Minor in Physical Education—Secondary

21 units which must include Physical Education 220, 321B; Physical Education 222 (formerly 221) for lower division students or 322 for upper division students; four units from the following: Physical Education 210, 211, 212, 213A, 214, 215A, 241; two units from each of the five following categories: Physical Education (1) 252, 253, 254, 255, 256, 257; (2) 260, 261; (3) 310, 311, 312, 413, 414, 415, 416, 442; (4) 352, 354, 356, 453, 455, 457; (5) 360, 460, 461; and one unit of Physical Education 497.

Master of Arts Degree in Physical Education

A program of study leading to the master of arts degree in physical education is offered. For detailed information concerning requirements see the *Graduate Bulletin.*

Adapted Physical Education and Special Education Program

The Physical Education Department offers the student interested in working with the handicapped in special education a combination program of adapted physical education and selected special education courses. Students who are interested in this program should apply to the Physical Education Department Coordinator for Adapted Physical Education.

Requirements for the Certificate in Adapted Physical Education and Special Education:

1. Bachelor's degree with a major in physical education.
2. Approval of adapted physical education by the coordinator of adapted physical education.
3. Required courses: Physical Education 439, 440, 637 (optional); Educational Psychology 350, 435; one of the following: Educational Psychology 451 or 464.

Athletic Training Program

The Physical Education Department offers students an opportunity to qualify for a Certificate in Athletic Training. Certification is designed to provide the participant with the specialized knowledge and skill that is required to care for athletic injuries and to administer the athletic training program in public and private schools, colleges and professional teams.

The certificate must be earned in conjunction with a teaching credential. This program is accredited by the National Athletic Trainers Association.

Requirements for the Certificate in Athletic Training:

1. A bachelor's degree.
2. A teaching credential in a specific subject area.
3. *Lower Division:* Biology 202, 207, Physical Education 230, Health Science 210, Psychology 100.
4. *Upper Division:* Physical Education 333, 335, 346 or equivalent, 433, 437, 480, 481, Home Economics 430, an advanced training techniques course: Physical Education 497 or 499, an advanced course in management theory of athletic injuries: Physical Education 499 or 680.
5. Two years approved-supervised clinical training under the direction of a certified athletic trainer.
6. Certification in cardio-pulmonary resuscitation and first aid.

Interested students should apply to the Physical Education Department Coordinator for Athletic Training.

Community Physical Fitness Program

The Certificate in Community Physical Fitness is designed to prepare the student for positions of leadership in physical activity areas other than teaching. Specific emphasis has been placed upon preparation of physical directors for the Y.M.C.A., Y.W.C.A., Boys Clubs, Girls Clubs and other nonprofit agencies, as well as commercial health clubs, gymnasiums and industrial sports and fitness programs.

Requirements for the Certificate in Community Physical Fitness:

1. Completion of all requirements for the B.A. in physical education.
2. Consultation with the adviser, Mr. Edward Souter.
3. Required courses: Physical Education 346, Physical Education 438; Recreation 421, 425, 484*. In addition the student is required to complete at least one course from each of the following three areas:
   a. Health, Physical Education, Recreation and Nutrition: Health Science 210, 327; Physical Education 230, 248; Recreation 318 or 330; Home Economics 430.
   b. Communication and Behavioral Areas: Journalism 270, Speech Communication 434, Sociology 335 or Psychology 351, Sociology 336, 345, 419; Recreation 340, Educational Psychology 302.
   c. Business and Management: Quantitative Systems 130, Accounting 201, Management 421, Manpower Management 360, 361, 464.

Corrective Therapy Program in Physical Education

Certification is designed to recognize advanced knowledge and the ability to provide therapeutic physical education commonly applied in public and private rehabilitation clinics and hospitals; public and private schools, colleges and universities; special schools and camps for the handicapped; nursing and recreational programs for the handicapped.

This program was developed in cooperation with the Veterans Administration Hospital and offers interested students an opportunity to qualify for certification in corrective therapy through the American Corrective Therapy Association.

*Six to nine units are to be taken in field work at the community agency.

Requirements for Certification Eligibility:

1. A bachelor's degree with a major in physical education.
2. 400 clinical hours in therapeutic physical education approved by the Physical Education Department.
3. Course requirements: 24-27 units which must include Physical Education 437, 499 (pathology) and 499 (neuroanatomy), six to nine units in 439 and Psychology 345 or equivalent, 370.

Interested students should apply to the Physical Education Department Coordinator for Corrective Therapy.

Psychomotor Therapy Program

This is a certificate offered by the Physical Education Department for students who are majoring in physical education, recreation, communicative disorders, and educational psychology, or have an emphasis in special education. The program is designed to provide participants an opportunity to receive specialized training in sensori-motor activities. Receipt of this certificate indicates a proficiency in the organization and conduction of programs designed to assist children having special movement problems. Students must earn a 3.0 grade point average in all certificate courses taken.

Requirements for the Certificate in Psychomotor Therapy

1. Verification that the student has or is specializing in either physical education, recreation, communicative disorders, educational psychology, or special education.
2. Approval to take the certificate program by the Physical Education Department.
3. Required courses: All students: Physical Education 275, 370 or 475, 538, Psychology 361, Educational Psychology 461, (Optional—Physical Education X499); (a) all non-recreation majors: Physical Education 437, 439; (b) recreation majors: Recreation 484 or 485, 491; (c) all non-physical education majors: Physical Education 304.

100—199. Physical Education Activity (1) Men, Women F, S Faculty

Broad range of physical education activities are offered. These activities are designed to provide an opportunity for students to meet their health, physical and recreational needs and interests. Maximum of eight units may be applied toward the General Education requirement. Students enrolling in physical education assume the responsibility for satisfactory health status appropriate for class activity.

General education physical education activity courses may be offered at the beginning (I), intermediate (II), and advanced (III) levels. All classes are coeducational, *and any student may enroll in classes offered by the Physical Education Department.* Classes offered within areas are as follows:

Sports and Games (1)

100. Archery
101. Backpacking
102. Badminton
103. Angling-Hunting Skills
104. Bowling
105. Dry Land Skiing
106. Fencing
107. Fencing-Sabre
108. Golf
109. Handball
110. Horsemanship
111. Ocean Fishing
112. Racketball
113. Rock Climbing
114. Tennis
115. Frisbee
116. Mountaineering
117. Winter Mountaineering
118. Wilderness Survival
119. Cross Country Skiing

Aquatics (1)

120. Rowing
121. Sailing
122. Scuba
123. Senior Lifesaving
124. Surfing
125. Swimming
126. Swimming Conditioning
127. Synchronized Swimming
128. Water Polo
129. Water Skiing
130. Water Volleyball
131. Canoeing

Fitness Activities (1)

140. Aerobic Dance
141. Bicycling
142. Bicycle Aerobics
143. Bicycle Racing
144. Fitness and Conditioning
145. Gymnastics
146. Jogging
147. Judo
148. Karate
149. Self Defense
150. Rhythmical Gymnastics
151. Weight Training and Conditioning
152. Yoga
153. Orienteering

Team Sports (1)

160. Baseball
161. Basketball
162. Beach Volleyball
163. Bicycling-Beach Volleyball
164. Field Hockey
165. Flag Football
166. Rugby
167. Soccer
168. Slow Pitch
169. Softball
170. Team Handball
171. Track and Field
172. Volleyball
173. Volleyball-Badminton-Swimming
174. Lacrosse

Recreational Dance (1)

180. Creative Movement
181. Folk Dance
182. Recreational Classic Movement
183. Recreational Dance Workshop
184. Recreational Free Style Movement
185. Social Dance
186. Square Dance

Sport Studies (1-3)

190. Sports Appreciation
191. Why Exercise?
193. Fitness for Living
197. Special Topics
198. Special Activities
199. Special Studies

Sports, Athletics and Recreation Courses, Men, Women

The University sponsors a complete athletic program which is considered an important aspect of student life. The Department of Sports, Athletics and Recreation is the administrative unit responsible for the intercollegiate athletic programs, the intramural program, the supervision of club sport activities, and physical recreation for students, faculty and staff.

The department sponsors a diverse program of intercollegiate athletics for men and women. The women's intercollegiate athletic program is governed by the Association for Intercollegiate Athletics for Women and the Western Collegiate Athletic Conference, maintaining membership in both organizations. Women's varsity sports are basketball, golf, cross country, gymnastics, field hockey, swimming and diving, tennis, track and field, volleyball and coed badminton, fencing and archery.

The men's intercollegiate athletic program competes under the rules of the National Collegiate Athletic Association and the Pacific Coast Athletic Association; it holds memberships in both organizations. Men's varsity sports are football, basketball, baseball, track and field, cross country, water polo, swimming, gymnastics, wrestling, volleyball, golf and tennis.

The intramural program offers all students the opportunity to play in a wide range of sports and activities. The program receives strong university support. The modern and varied equipment of the physical education facility is utilized in the program which includes 52 different activities. The participants may select one or more of the activities offered from the regular schedule. Team activities are scheduled Saturdays, Thursday nights, and weekdays (12:00 to 1:00); competition in singles and doubles events is scheduled anytime participants can match their own free time with unoccupied facilities. League competition is available in many of the activities for men, women and coeducational participation at the advanced, intermediate and novice skill levels. An increase in coeducational activities has been a major accomplishment of the department.

Students may participate in four club sport activities sponsored by the Associated Students and administered through the S.A.R. department. These sports are crew, rugby, sailing, and soccer.

A recreation program for students, faculty and staff is available through the intramural office. This program is varied to meet the physical recreation needs of students, faculty and staff as the availability of physical facilities permits.

Students registering in the intercollegiate or intramural sports program should refer to the following courses:

200. Intramural Activities (1) F, S Faculty
Enrollment open to all students. Participation in competitive intramural activities. A minimum of 30 hours of participation per semester is required to receive credit. May be repeated for credit.

201. Intercollegiate Team Sports (1) F, S Faculty
Enrollment subject to approval of the coach of the sport in season. Up to eight units of activity may be applied toward the general education requirement under Category VI. Athletes enrolled in P.E. 201 for credit who fail to qualify for the squad must withdraw from the course. (a) baseball, (b) basketball, (f) football, (j) swimming, (m) track and field, (n) volleyball.

202. Intercollegiate Sports (1) F, S Faculty
Variety of team, individual and dual sports are offered. Enrollment subject to the approval of the coach of the sport in season. Up to eight units of activity may be applied toward the general education requirement under category VI. Athletes enrolled in P.E. 202 for credit who fail to qualify for the squad must withdraw from the course. (b) basketball, (c) crew, (d) cross country, (g) golf, (h) gymnastics, (i) spring football, (j) swimming, (k) tennis, (m) track and field, (n) volleyball, (o) water polo, (p) wrestling, (q) soccer, (r) field hockey, (s) softball.

204. Coeducational Intercollegiate Sports (1) F, S Faculty
Variety of individual and dual sports are offered. Enrollment is subject to the approval of the faculty member coaching the sport. (a) archery, (b) badminton, (c) fencing.

318. Theory and Practice of Intercollegiate Major Sports (3) F, S Coaching Staff
Prerequisites: Two years of competition at the college level, approval of the coach of the major sport in season. Concentrated study in the field of interest with emphasis on skill, strategy, tactics, rules, officiating and organizational and administrative procedures. A student may not repeat this course in the same intercollegiate sport but may repeat the course in a different intercollegiate major sport. Student may not be enrolled in P.E. 201 concurrently. Those enrolled in P.E. 318 who fail to qualify for the squad must withdraw from the course. Men's major intercollegiate sports include baseball, basketball, football, track and field. Women's major intercollegiate sports include basketball, track and field, swimming and diving and volleyball.

319. Theory and Practice of Intercollegiate Minor Sports (2) F, S Coaching Staff
Prerequisites: Two years of competition at the college level, approval of the coach of the minor sport in season. Concentrated study in the field of interest with emphasis on skill, strategy, tactics, rules, officiating and organization and administrative procedures. A student may not repeat this course in the same intercollegiate minor sport, but may repeat the course in a different intercollegiate sport. Student may not be enrolled in P.E. 202 concurrently. Those enrolled in P.E. 319 who fail to qualify for the squad must withdraw from the course. Men's intercollegiate minor sports include cross country, crew, golf, gymnastics, soccer, swimming, tennis, volleyball, water polo and wrestling. Women's intercollegiate minor sports include golf, hockey, tennis, gymnastics, softball, cross country. Coed intercollegiate minor sports include archery, badminton and fencing.

Physical Education Professional Courses

Physical education majors and minors will be given priority enrollment in classes required for the major. Selected courses are available to the general student body to receive credit toward general education requirements.

Lower Division

210. Archery (1) F, S Leach
Instruction and practice in the fundamental skills basic to successful performance in archery.

211. Badminton (1) F, S Franklin, Miller
Instruction and practice in the fundamental skills basic to successful performance in badminton.

212. Golf (1) F, S Deatherage, Pestolesi, Reed, Wurzer
Instruction and practice in the fundamental skills basic to successful performance in golf.

213A. Gymnastics I (1) F, S Faculty
Instruction and practice in the fundamental skills basic to successful performance in gymnastics.

213B. Gymnastics II (1) F, S Faculty
Prerequisite: Physical Education 213A or equivalent. Instruction and practice to gain increased skills for successful performance in gymnastics.

214. Tennis (1) F, S Deatherage, Toohey
Instruction and practice in the fundamental skills basic to successful performance in tennis.

215A. Track and Field I (1) F, S Glass
Instruction and practice in the skills basic to successful performance in track and field activities.

215B. Track and Field II (1) F, S Glass
Prerequisite: Physical Education 215A or equivalent. Instruction and practice for increased skills basic to successful performance in track and field activities.

220. Fundamentals of Human Movement (2) S DuPont, Lyon
Designed to develop an understanding of basic mechanical principles as well as principles of physical conditioning as they apply to the improvement of the individual's motor skills and fitness level.

222. Introduction to Human Movement (2) F, S Baker, Bartlett, Edmondson, Souter
An overview of physical education, professional preparation, philosophies and employment opportunities. Characteristics of the field are viewed from a broad theoretical and practical perspective.

224. Team Sports I: Softball, Baseball, Basketball and Volleyball (2) F, S Chandler, Gonsalves
Instruction and practice in the skills basic to successful performance in softball, baseball, basketball and volleyball.

225. Racquet Sports (2) F, S Campbell
Instruction, practice and analysis in tennis, badminton and racquetball.

230. First Aid (2) F, S Gonsalves, Reed
Theory and practice of first aid for the injured. Successful completion of course requirements leads to the American National Red Cross "Standard" and "Advanced" first aid certificate. Authorization for the "Instructor's" certificate is possible for teachers and prospective teachers. (Most school systems require all elementary and secondary school teachers either to have a valid standard first aid certificate, or to acquire one during their first year of teaching.) (Lecture, activity.)

241. Aquatics (2) F, S Edmondson, Jochums, Royal, Schultz
Instruction and practice in the fundamental skills basic to successful performance in aquatics.

242. Gymnastics (2) F, S Bartlett, Takei
Beginning and intermediate instruction and practice in floor exercise, horizontal bar, side horse, parallel bars, rings, tumbling, vaulting and trampoline.

243. Wrestling (2) F, S Boring, Rodriquez
Instruction and practice in takedowns, breakdowns, controls, pinholds, escapes, reversals, blocks and counters.

244. Team Sports II: Football, Speedball and Soccer (2) F, S Keele, Rowen, Shaw, Youngs
Instruction and practice in the fundamental skills basic to successful performance in football, speedball and soccer.

246. Individual-Dual Sports II (2) F, S Allice, Souter
Instruction, practice and evaluation in the fundamental skills basic to successful performance in cross-country, track and field and conditioning. (Laboratory including off-campus cross-country running experience.)

248. Advanced Swimming and Water Safety (2) F, S Jochums, Leach, Royal, Schultz
Prerequisite: Physical Education 123 or current senior lifesaving certificate. Advanced swimming skills and water safety, including the opportunity to qualify for the American National Red Cross Water Safety Instructor's Certificate. Open to all students.

250. Officiating Women's Sports I (2) F Faculty
Designed to develop proficiency in officiating volleyball and basketball.

251. Officiating Women's Sports II (2) S Faculty
Designed to develop proficiency in officiating field sports and softball.

252. Basketball (1) F, S Grimmett
Instruction and practice in the fundamental skills basic to successful performance in basketball.

253. Softball (1) F, S Grimmett
Instruction and practice in the fundamental skills basic to successful performance in softball.

254. Volleyball (1) F, S Grimmett
Instruction and practice in the fundamental skills basic to successful performance in volleyball.

255. Field Hockey (1) F, S Faculty
Instruction and practice in the fundamental skills basic to successful performance in field hockey.

256. Flag Football (1) S Faculty
Instruction and practice in the fundamental skills basic to successful performance in flag football.

257. Soccer, Speedball, Speed-a-way (1) F, S Faculty
Instruction and practice in the fundamental skills basic to successful performance in these activities.

260. Fundamental Rhythms (2) F, S DuPont, Griffith
Instruction and practice in fundamental rhythms, folk, square and social dance.

261. Fundamentals of Creative Movement in Physical Education (2) F, S Griffith
Instruction and practice in the fundamental skills of creative movement for physical education majors and minors who will be teaching in the public schools. Emphasis is placed on the process of learning about one's movement potential and how to utilize movement for self-understanding and self-expression. Includes musical terminology and elemental music forms with specific references to creative movement in education.

275. Basic Movement Education (3) F, S Edmondson, Sandefur, Schwartzkopf, M. Toohey
Analysis of the components of movement with application to body management, games, gymnastics, dance, rhythmic activities and developmental skills commonly taught in the elementary school physical education program.

280. Emergency Care in Sports Activities (2) F, S Arnheim
Emergency and preliminary management procedures required in sports injuries. Successful completion of course requirements leads to a standard and advanced American First Aid Certificate and a certificate in Cardio-Pulmonary Resuscitation.

Upper Division

303. Motor Learning (2) F, S Comer, Lindsey, Stock
Prerequisites: Biology 202, 207; Psychology 100. Principles of motor learning in the acquisition of movement skills.

304. Scientific Foundations (4) F Boring, Mastropaolo
Basic information involving human anatomy, kinesiology, exercise physiology, motor learning as related to physical education activities. Not open to physical education majors.

310. Analysis of Archery (1) F, S Leach
Prerequisite: Physical Education 210. Comprehensive analysis of the principles of movement and the motor skills used in archery.

311. Analysis of Badminton (1) F, S Franklin, Miller
Prerequisite: Physical Education 211. Comprehensive analysis of the principles of movement and the motor skills used in badminton.

312. Analysis of Golf (1) F, S Deatherage
Prerequisite: Physical Education 212. Comprehensive analysis of the principles of movement and the motor skills used in golf.

317. Administration and Officiating of Intramural Sports (3) F, S Vendl, Wuesthoff
Administrative techniques, objectives, problems and officiating of intramural sports at the secondary and college level. Direct experience in CSULB intramural program as event supervisor and official.

321A. Principles and Organization of Elementary School Physical Education (2) F Faculty
Prerequisite: Concurrent enrollment in Education Single Subject 300W. Philosophy, principles and practices of physical education and their relationship to organizational problems in the elementary school physical education program.

321B. Principles and Organization of Secondary Physical Education (2) F, S Baker, M. Miller, M. Toohey
Prerequisite: Concurrent enrollment in Education Single Subject 300W. Principles, aims and objectives of physical education and their relationship to organizational problems in the secondary school physical education program.

322. Historical and Cultural Foundations of Sport and Physical Education (3) F, S Comer, Miller, Rose, M. Toohey
Survey of the history of sport and physical education. Historical identification of the trends and functions of sport and physical education.

333. Applied Principles of Kinesiology (3) F, S Crowe, Lyon, Mastropaolo
Prerequisite: Biology 202. Structure, function and mechanical principles relating to human motion, including analytical application.

335. Physiology of Exercise (3) F, S Lyon, Mastropaolo
Prerequisite: Biology 207. Physiological effects of exercise on the human body. Significance of these effects for health and performance in physical activity.

346. Conditioning in Physical Education and Athletics (2) F Souter
Prerequisite: Lower division conditioning course or consent of instructor. Theory and practice of conditioning in physical fitness and athletics, including equipment, facilities, organizational procedures, individual adaptations of exercise and varied systems of training.

352. Analysis of Basketball (1) F, S Grimmett
Prerequisite: Physical Education 252. Comprehensive analysis of the principles of movement, the motor skills and the strategy concepts used in basketball.

354. Analysis of Volleyball (1) F, S Grimmett
Prerequisite: Physical Education 254. Comprehensive analysis of the principles of movement, the motor skills and the strategy concepts used in volleyball.

356. Analysis of Flag Football (1) F, S Miller
Prerequisite: Physical Education 256. Comprehensive analysis of the principles of movement and the motor skills used in flag football.

360. Analysis of Social-Recreational Dance (2) F, S DuPont, Griffith
Prerequisite: Physical Education 260. Comprehensive analysis of the theory and practice of social, folk and square dance. Includes skills analysis, organization, conduct and evaluation of the social-recreational dance forms.

370. Elementary School Physical Education (2) F, S Sandefur, Schwartzkopf
Prerequisite: Physical Education 275 or knowledge of basic game and rhythm skills. Principles, aims and objectives of physical education in the elementary schools. Observation and practice in the teaching techniques used in elementary school physical education.

373. Fundamental Motor Skills for Children (2) S Faculty
Analysis and practice in fundamental skills, gymnastics, combatives, track and field and perceptual-motor activities in the elementary school physical education program.

378. Dance for Children (2) F Griffith, M. Toohey
Prerequisite: Proficiency in basic dance steps. Exploration of movement and accompaniment in the learning and creativity of dance as it relates to the elementary school child.

380. Prevention and Care of Athletic Injuries (2) F, S Arnheim, Wurzer
Prerequisite: Biology 202. Study of methods and skills required in the prevention and management of athletic injuries.

381. Field Work in Athletic Training (3) F, S Arnheim
Prerequisites: Consent of instructor, Physical Education 380. Supervised experience in athletic training. May be repeated to a maximum of 9 units of credit.

391. Practicum in Physical Education (2) F, S Faculty
Prerequisite: Physical Education 222. Supervised leadership as an aide or intern in a setting of the student's choice.

401. Measurement and Evaluation in Physical Education (2) F, S Deatherage, Franklin, Sinclair
Prerequisite: Senior standing. Principles and techniques of construction, organization, administration, interpretation and evaluation of measuring devices used in physical education.

403. Socio-Psychological Concepts of Movement Behavior (3) F, S Baker, Stock
Prerequisites: Psychology 100, Sociology 100. Psychological and sociological correlates of movement behavior in physical education and athletics.

410. Organization and Conduct of Physical Education (3) F, S Sandefur, Wuesthoff, Wurzer
Prerequisite: Physical Education 222. Organization and conduct of activities taught in secondary schools, including skills analysis and class deployment. (Lecture, laboratory including off-campus public school teaching experience.)

413. Analysis of Gymnastics (1) F, S Faculty
Prerequisite: Physical Education 213A and B. Comprehensive analysis of the principles of movement and the motor skills used in gymnastics.

414. Analysis of Tennis (1) F, S Deatherage, Grimmett
Prerequisite: Physical Education 214. Comprehensive analysis of the principles of movement and the motor skills used in tennis.

415. Analysis of Track and Field (1) F, S Glass
Prerequisites: Physical Education 215A and B. Comprehensive analysis of the principles of movement and the motor skills used in track and field.

416. Analysis of Fencing (1) S, 1979 and alternate years Redmon
Prerequisite: Physical Education 106. Comprehensive analysis of the principles of movement and the motor skills used in fencing.

420. Sport and Society (2) F, S D. Toohey
Sport is studied as it relates to society. Topics include sport as a social institution, sport as it relates to socialization, self, collective behavior, deviant behavior, social stratification, group dynamics and culture, education, industry, religion, economics, military and recreation.

422. Philosophical Issues in Physical Education (2) F, S Royal, M. Toohey
Prerequisites: Physical Education 321, 322, senior standing. Basic survey of the nature and significance of the philosophic enterprise as it serves to enhance a sensitivity for and knowledge of physical education and sport.

433. Behavioral Problems in Physical Education and Athletics (2) F, S Patterson, Sandefur
Psychological factors related to discipline and behavior problems in physical education and athletics.

437. Adapted Physical Education (2) F, S Arnheim, Crowe, Lindsey, Lyon, Rodriguez, Souter
Prerequisite: Physical Education 333 or equivalent. Organization, administration and techniques utilized in the conduct of adapted physical education classes.

438. Physical Fitness and Restoration (3) S Mastropaolo, Souter
Prerequisite: Physical Education 335 or consent of instructor. Principles and practical application of exercise for development, maintenance and restoration of school age children and adults.

439. Field Work in Adapted Physical Education (3) F, S Crowe, Rodriguez
Prerequisite: Physical Education 437 or consent of instructor. Supervised clinical experience in adapted physical education at suitable public and private agencies. May be repeated to a maximum of nine units of credit.

440. Advanced Techniques in Adapted Physical Education (3) F Arnheim, Crowe, Lyon
Prerequisite: Physical Education 437. Advanced methods and techniques in the program planning, evaluation and administration of physical education programs for the exceptional individual in the schools, hospitals and community. Includes laboratory, observation and field work experiences.

441. Theory of Teaching and Coaching Aquatics (2) F, S Jochums, Schultz
Prerequisite: Physical Education 241 or equivalent. Theoretical and practical application of teaching and coaching techniques in aquatics.

442. Analysis of Aquatics (2) F, S Edmondson, Royal
Prerequisite: Physical Education 241. Comprehensive analysis of the principles of movement and the motor skills used in aquatics.

443. Theory of Teaching and Coaching Gymnastics (2) F, S Bartlett, Takei
Prerequisite: Physical Education 242 or equivalent. Theoretical and practical application of teaching and coaching techniques in gymnastics.

444. Theory of Teaching and Coaching Wrestling (2) F, S Boring
Prerequisite: Physical Education 243 or equivalent. A scientific approach to the theoretical and practical application of teaching and coaching wrestling.

453. Analysis of Softball (1) F, S Grimmett
Prerequisite: Physical Education 253. Comprehensive analysis of the principles of movement, the motor skills and the strategy concepts used in softball.

455. Analysis of Field Hockey (1) F, S Miller
Prerequisite: Physical Education 255. Comprehensive analysis of the principles of movement and the motor skills used in field hockey.

457. Analysis of Soccer, Speedball, Speed-a-way (1) F, S Miller
Prerequisite: Physical Education 257. Comprehensive analysis of the principles of movement and the motor skills used in soccer, speedball and speed-a-way.

460. International Folk Dance (2) F, S DuPont, Griffith
Prerequisite: Physical Education 260. Emphasis on enrichment of the knowledge of folk dances and background which shapes the origins, themes and the styling; acquisition of skills in correct performance of the dances; augmentation of attitudes and appreciations of peoples to a vital folk art.

461. Analysis of Creative Movement in Physical Education (2) F, S Griffith
Prerequisite: Physical Education 261. Comprehensive analysis of the principles of creative movement for physical education majors and minors who will be teaching in the public schools.

465. Special Events in Physical Education (1) F Franklin
Principles and procedures in the conduct of special events commonly related to the physical education program. Special emphasis upon standards, organization and administration, and resource materials.

466. Coaching Individual Sports (1) SS Faculty
Prerequisite: At least upper division standing. Comprehensive analysis of the principles of movement and motor skills used in individual sports, including theory and practice; development of tactics, strategies and coaching techniques. (a. Archery, b. Diving, c. Golf, d. Gymnastics, f. Swimming, g. Track and Field.)

467. Coaching Dual Sports (1) SS Faculty
Prerequisite: At least upper division standing. Comprehensive analysis of the principles of movement and motor skills used in dual sports, including theory and practice; development of tactics, strategies and coaching techniques. (a. Tennis, b. Badminton, c. Fencing.)

468. Coaching Team Sports (1) SS Faculty
Prerequisite: At least upper division standing. Comprehensive analysis of the principles of movement and motor skills used in team sports, including theory and practice; development of tactics, strategies and coaching techniques. (a. Basketball, b. Volleyball, c. Softball.)

469. Coaching Field Sports (1) SS Faculty
Prerequisite: At least upper division standing. Comprehensive analysis of the principles of movement and motor skills used in field sports, including theory and practice; development of tactics, strategies and coaching techniques. (a. Hockey, b. Soccer/Speedball/Speed-a-way, c. Touchdown.)

470. Administration of Athletics (2) S Deatherage, Pestolesi
Organization and administration of athletic programs in secondary schools, community colleges and universities as well as recreational sports programs.

474. Foundations of Psychomotor Development (2) S Lindsey
Prerequisites: Physical Education 333, Educational Psychology 301. Investigation and study of the patterns of motor-sensory development and their role in the curriculum.

475. Developmental Physical Education for Children (2) F, S Edmondson, Toohey
Prerequisite: Physical Education 275. Analysis and participation in physical movement experiences with special emphasis placed upon the study of optimum physical development of children.

480. Outdoor Studies (3) F, S Baker, Miller
An exploration of the outdoor studies as a viable option in physical education programs. Includes a study of the philosophy of experiential education, sample programs, environmental and ecological awareness, group dynamics and behavior modification implications, and the practical considerations of developing and implementing outdoor programs.

482. Field Work in Athletic Coaching (3) F, S Morgan
Prerequisite: Consent of department. Supervised experience in athletic coaching. Assignment will be in a secondary school in their physical education department. Practical experience working with high school students in all phases of the interscholastic athletic program. Offered on Credit/No Credit basis only. May be repeated for a maximum of six units in different sports.

484. Coaching Football (3) F, S Keele, Youngs
Prerequisite: Physical Education 244. Theories of coaching, principles and organization of interscholastic tackle football.

485. Coaching Basketball (3) F, S Carnevale, Chandler
Prerequisite: Physical Education 224. Theories of coaching, principles and organization of interscholastic basketball.

486. Coaching Cross Country, Track and Field (3) F, S Allice, Rose
Prerequisite: Physical Education 246. Theories of coaching, principles and organization of interscholastic cross country, track and field.

487. Coaching Baseball (3) F, S Gonsalves
Prerequisite: Physical Education 224. Theories of coaching, principles and organization of interscholastic baseball.

488. Creative Management in Physical Education and Athletics (3) F, S Campbell, Pestolesi
Organization and administration of the physical education, recreation, and athletic programs in the secondary schools. Observation in the secondary schools of the physical education, recreation and athletic administrative practices.

491. Field Experience in Coaching Women's Sports (3) F, S Grimmett
Prerequisite: Consent of instructor. Physical Education coaching class in specific sport. Designed to provide a future coach with a supervised practice-coaching experience under the guidance of an established coach of a junior high, senior high or college women's varsity team. May be repeated for a maximum of six units with a second sport assignment.

497. Independent Study (1-3) F, S Pestolesi
Prerequisites: Major or minor in physical education and consent of instructor. Student will conduct independent library or laboratory research under the supervision of a faculty member and write a report of the investigation. May be repeated for a maximum of six units.

499. Special Studies (1-3) S Faculty
Group investigation of topics of current interest in physical education or athletics. Topics to be announced in the *Schedule of Classes*. May be repeated for a maximum of six units of credit with change of topic.

Graduate Division

521. Administration of Physical Education (3)

522. Supervision in Physical Education (3)

523. Curriculum Development and Construction in Physical Education (3)

525. Instructional Design in Physical Education (3)

533. Scientific Bases for Physical Education (3)

534. Human Performance Instrumentation (3)

535. Exercise Science: Tests and Training (3)

538. Motor Dysfunction and Remedial Physical Education (3)

573. History of Sport and Physical Education (3)

574. Contemporary International Sport (3)

577. Sport in U.S. Culture (3)

590. Statistical Analysis and Measurement in Physical Education (3)

630. Seminar in Motor Learning (3)

633. Seminar in Sport Psychology (3)

637. Seminar in Adapted Physical Education (3)

671. Seminar in Current Trends and Issues in Sport and Physical Education (3)

674. Seminar in Philosophical Concepts of Sport and Physical Education (3)

675. Seminar in Human Movement Theory (3)

680. Seminar in Management Theory of Athletic Injuries (3)

683. Seminar in Competitive Sports for Girls and Women (3)

685. Seminar in Athletics (3)

695. Seminar in Professional Literature (3)

696. Research Methods (3)

697. Directed Studies (1-3)

698. Thesis (1-4)

699. Seminar in Selected Topics (3)

Physical Therapy

Department Chair: Dr. Frank J. Bok.

Professors: Bok, D.D. Williams.

Associate Professors: Morris, Neilsen.

Academic Advising Coordinators: Dr. Frank J. Bok, Dr. David D. Williams (EOP and Minority).

The physical therapy curriculum is designed to enable students to become an integral part of the medical rehabilitation team as practicing physical therapists in a variety of clinical facilities. Appropriate science, professional, medical and clinical experiences are provided. Successful completion of the major and/or degree requirements leads to a bachelor of science degree. Successful completion of the program qualifies one to write the State of California examination to practice as a physical therapist. The program is approved by the American Physical Therapy Association.

Professional (Baccalaureate) Program Requirements

Because admission to the program is limited and applications far exceed this limit, admission is on a competitive basis and is limited to undergraduate California residents. Admission to the University does not guarantee admission to the program. The following sections detail the admittance requirements.

Application for Admittance to Professional Program

After being admitted to the University, students must file an appropriate supplemental application (obtained from the Physical Therapy Department) with the department. The application must be filed at the beginning of the semester after the student has completed all prerequisites including Physical Therapy 210, 374 and show evidence that 80 semester units, (including all general education requirements), have been earned. Opportunities to enroll in Physical Therapy 210 and 374 vary according to demand and resources. For applications to be considered complete and valid applicants must meet the following stipulations:

1. Include all information requested.
2. Include transcripts of all academic work attempted at high school and college.
3. Be physically well in order to carry out typical case loads expected of practicing therapists.

4. Be emotionally well in order to cope with the typical case loads of practicing therapists.
5. Demonstrate satisfactory potential for success in the program as disclosed by previous academic success in all college work attempted.
6. Demonstrate satisfactory potential for success in the program as disclosed by previous academic success in sciences and other program related credits earned. The following sciences and their semester unit values are the CSULB science prerequisites to the professional program: (Note that grades of B or better are required and that all courses except psychology must have laboratory experiences.)

Course	*Units*
Anatomy (human), Biology 202	3–4
Biology (general, not biological or life science), Biology 200	3
Chemistry (inorganic and organic), Chemistry 200	4
Chemistry (organic and biochemistry), Chemistry 300	4
Physics (survey), Physics 104	4
Physiology (human), Biology 207	3–4
Psychology (general), Psychology 100	3
Psychology (abnormal), Psychology 370	3
Psychology (disability), Physical Therapy 374	3

7. Demonstrate satisfactory success in the field by documented previous work experience in physical therapy or some other health related area.
8. Be a California resident.*

Requirements for Admittance to Clinical Practice:

1. Complete or have in progress all other requirements for the baccalaureate degree and/or major at the time of application for admittance to clinical practice.
2. Earn a 2.0 (C) in each professional course attempted.
3. Successfully complete a competence inventory examination.

Bachelor of Science Degree in Physical Therapy (55 units) (code 3-1225)

Lower Division: Physical Therapy 210.

Upper Division: Biology 307, Chemistry 300, Physical Therapy 300, 320, 351, 353, 371, 374, 380, 430, 431, 440, 460, 472, 473, 485A,B; Psychology 370.

Lower Division

210. Orientation to Physical Therapy (2) F, S Black, Carlstrom, Hammer, Hilmer, Morris, Nielsen
Orientation to the field of physical therapy.

Upper Division

300. Human Anatomy for Therapists (4) F, S Williams
Prerequisite: Admittance to professional program by department. Regional human anatomy for therapists, including all gross structures and their functions, using cadavers and prosected human specimens. (Lecture 2 hours, laboratory 6 hours.)

320. Applied Kinesiology for Therapists (4) F, S Bok, Morris
Prerequisites: Physical Therapy 300, consent of instructor. Principles of kinesiology applied to therapeutic techniques and procedures. (Lecture 3 hours, laboratory 3 hours.)

*A conviction of a crime which substantially relates to the qualifications, functions or duties of a physical therapist may prevent a person from obtaining a license to practice.

351. Physical Therapy Procedures I (3) F, S Hoffman, Long, Mayo
Prerequisites: Physical Therapy 300 (may be taken concurrently) and consent of instructor. Principles and techniques of patient care, including massage and hydrotherapy and traction procedures. (Lecture 2 hours, laboratory 3 hours.)

353. Physical Therapy Procedures II (3) F, S Bok, Morris
Prerequisites: Physical Therapy 300 and consent of instructor. Principles and techniques of electrotherapy procedures, including indications and physical and physiological bases. (Lecture 2 hours, laboratory 3 hours.)

371. Clinical Lectures I (3) F, S Bok, Williams, Faculty
Prerequisites: Physical Therapy 210 and consent of instructor. The pathology, clinical course, medical and/or surgical implications, and the roles of the physical therapist regarding infectious and idiopathic diseases, and diseases of allergy, metabolism, and the digestive, respiratory, blood, recticuloendothelial and cardiovascular systems.

374. Psychology of Disability (3) F, S Rabin
Prerequisite: Psychology 100. Analysis of situations confronting physically disabled persons. Consideration of reaction to acute and chronic disability, role of the physical therapist and the psychologist in promoting positive adjustments and factors during hospitalization promoting and impeding adjustment. Same course as Psychology 374.

380. Clinical Applications (1-4) F, S Bok, Morris, Nielsen, Faculty
Prerequisites: Physical Therapy 320 and consent of instructor. Supervised experience in various clinical rehabilitation facilities during which the student acquires, through observation and participation, clinical insight and experience in the procedures and practices in the field. (Field work.)

430. Physical Therapy Procedures III (4) F, S Morris, Nielsen
Prerequisites: Physical Therapy 320 and consent of instructor. Principles and techniques of exercise design and assistive devices as applied to the prevention and correction of physical disability, including methods of evaluation. (Lecture 3 hours, laboratory 3 hours.)

431. Physical Therapy Procedures IV (2) F, S Morris, Nielsen
Prerequisites: Physical Therapy 430 and consent of instructor. Advanced therapeutic principles and procedures, including appropriate evaluative techniques. (Lecture 1 hour, laboratory 3 hours.)

440. Organization, Administration and Supervision (2) F, S Hammer
Prerequisites: Senior standing in physical therapy and consent of instructor. Organization, administration and supervision of physical therapy departments in various clinical settings.

445. Modern Trends in Physical Therapy (3) F, S Bok, Faculty
Prerequisite: Consent of instructor. Designed to bring to the active and inactive therapist updated information on trends, procedures and practices.

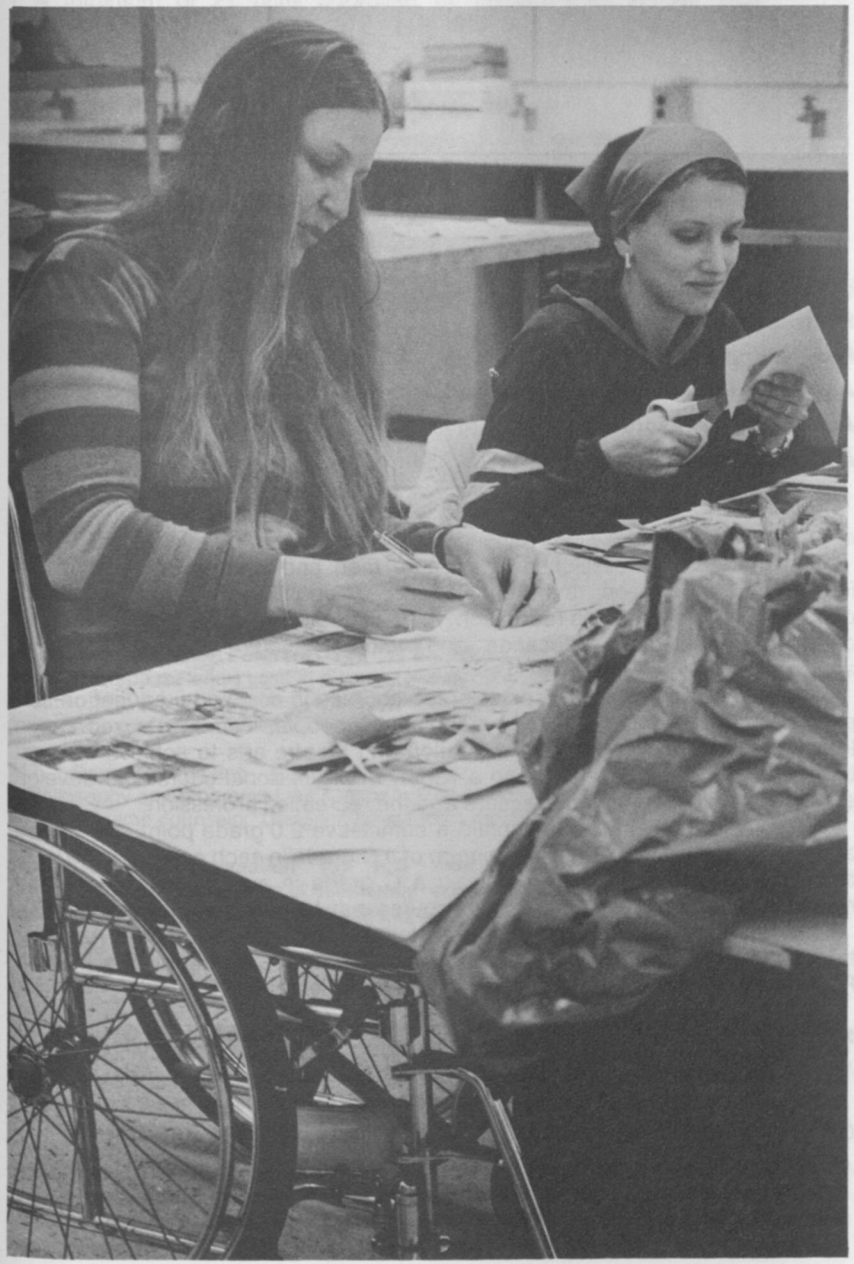
460. Neuroanatomy and Neurophysiology for Therapists (3) F Williams
Prerequisites: Physical Therapy 300 and consent of instructor. Correlation of neuroanatomy with pathologies commonly treated by therapists. (Lecture 2 hours, laboratory 3 hours.)

472. Clinical Lectures II (2) F, S Morris, Faculty
Prerequisites: Physical Therapy 371 and consent of instructor. Pathology, clinical course, medical and/or surgical implications, and the role of the physical therapist in the management of diseases of the endocrine and locomotor systems with specific reference to arthritis, amputation and muscular and congenital deformities.

473. Clinical Lectures III (2) F, S Morris, Faculty
Prerequisites: Physical Therapy 472 and consent of instructor. Pathology, clinical course, medical and/or surgical implications and the role of the physical therapist in the management of neurological, psychiatric and skin conditions.

485A,B. Clinical Practice (3,3) F, S Nielsen, Faculty
Prerequisite: Consent of department. Directed practices in physical therapy procedures in clinical affiliations of various types for 18 40-hour weeks. (Field work.)

490. Special Studies (1-3) F, S Bok, Williams, Faculty
Prerequisite: Consent of department. Independent projects in any area of physical therapy. Human dissection is available as a special study. May be repeated to a maximum of six units.



Recreation and Leisure Studies

Department Chair: Dr. Marilyn A. Jensen.

Emeritus: Stanley R. Gabrielsen.

Professors: Cook, Gray, Jensen.

Associate Professors: Minar, Thorson.

Assistant Professors: Andersen, Crayton, Hoff.

Academic Advising Coordinator: Mr. John Minar.

Recreation leadership is concerned with the organization and management of programs to satisfy the leisure needs and interests of all people.

The curriculum is designed to prepare men and women for positions of leadership, supervision and administration in public recreation and park departments, armed forces recreation, industrial recreation, medical recreation, camping and outdoor education and voluntary youth and adult serving agencies.

The curriculum encompasses selected courses in sociology, education and psychology to provide an understanding of people; courses in recreation leadership, art, music, physical education and theatre arts to achieve a broad background in program skills; and a variety of professional courses to develop an understanding of American leisure and the recreation profession.

Each major student must maintain a cumulative 2.0 grade point average on all units attempted and attain a minimum of a C grade in each course required in the major. Students earning less than a C grade in a required course must repeat that course. A recreation prefix course may be repeated only one time.

The department is accredited by the National Recreation and Park Association Council on Accreditation and the California Council on Parks and Recreation, an agency of the California Park and Recreation Society.

Major in Recreation for the Bachelor of Arts Degree (code 2-1220)

Lower Division: Recreation 211, 241; one course from Theatre Arts 122, Art 100, Music 290; Psychology 100; Sociology 100.

Upper Division: Recreation 300, 312, 340, 421, 425, 475, 484, 485.

Additional Courses: Each major student is required to complete courses selected from the following groups: One course from Educational Psychology 301, 302, Psychology 370, 374; two courses selected from Speech Communication 344, 434, Journalism 270, 375, 376, 471; three courses

from Recreation 318, 330, 491, 493; completion of two of the following three groups: *Creative Arts:* Art 304 plus four units of creative arts approved by adviser; *Performing Arts:* Theatre Arts 358 plus three units in performing arts approved by adviser; *Physical Recreation Activities:* Recreation 315, plus three units of physical education activity approved by adviser.

Minor in Recreation (code 0-1220)

A minimum of 21 units approved by departmental adviser which must include: Recreation 211, 241, 312, 340, 484; two of the following: Recreation 315, 330, 421, 425, 491, 493.

Certificate Program in Therapeutic Recreation

Requirements for the Certificate in Therapeutic Recreation:

1. Recreation 484, 485, 490, 490X and 491. Fieldwork of 80 hours required at approved agencies for Recreation 484/485. Recreation 490X cannot be taken until completion of the baccalaureate degree in recreation. Internship requires 40 hours a week for eight weeks.
2. Nine units from two or more of the following areas: Biology 107; Educational Psychology 301, 302, 305, 311, 405, 435, 451; Health Science 320, 327, 421; Physical Education 130, 374, 405, 437; Psychology 370; Sociology 336, 401, 441, 445; Social Welfare 370 or 371.

Master of Science Degree in Recreation Administration

A program of study leading to the master of science degree in recreation administration is offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

211. The Recreation Program (3) F, S Minar
Methods and materials used in planning and conducting organized recreation programs in public and private agencies. Theory and practicum. Special emphasis on supervised programming in field experiences. Not open to students with credit in Recreation 311.

217. Camp Counseling (3) F, S Faculty
Philosophy and program of the summer camp with special emphasis on the responsibilities of the camp counselor. Designed for students seeking summer camp employment.

241. Community Recreation (3) F, S Hoff, Minar, Thorson
Principles and organization of community recreation. Concepts of community structure. Survey of public and private agencies engaged in community-wide recreation.

Upper Division

300. Orientation to Recreation and Leisure Studies (1) F, S Andersen, Crayton
Evaluation of student's academic, social and personal aptitudes and abilities determined through standardized tests. Personal cumulative records started. Orientation to the philosophy of the recreation and leisure studies department and employment potentials of the field.

312. Recreation Leadership (3) F, S Andersen, Kempton, Thorson
Prerequisites or corequisites: Recreation 211, 241. Theory and application of leadership as it pertains to tax-supported and voluntary agencies. Designed to give theoretical and practical understanding of the individual's role through group dynamics.

315. Recreational Sports Supervision (3) F, S Crayton
Organization and supervision of recreational sports for community-wide participation. Not open to students with credit in Recreation 315A,B.

318. Outdoor Recreation Management (3) F, S Minar
Extensive review of the respective roles of federal, state and local government agencies in the acquisition, development and management of land and water resources for outdoor recreation programs and services.

330. Recreation in the Urban Community (3) F, S Crayton, Hoff
Exploration of the social problems, minority populations and community resources of the urban impacted areas in relation to concerns of recreation and human needs.

340. Leisure in Contemporary Society (3) F, S Andersen, Kempton, Thorson
Prerequisites or corequisites: Recreation 211, 241. Intensive study of the new leisure and its impact on contemporary society.

421. Supervision in Recreation (3) F, S Hoff, Jensen
Prerequisite: Lower Division requirements. Concepts and techniques of supervision in recreation agencies; emphasis on recruitment, assignment, evaluation and in-service training of recreation personnel.

425. Organization and Administration of Recreation (3) F, S Andersen, Cook
Prerequisite: Lower Division requirements. Types of organization; program planning; finances; personnel; relationships and correlation with related agencies; construction, maintenance and promotion of the total recreation program as it relates to administration.

475. History and Philosophy of Recreation (3) F, S Hoff, Minar
Prerequisite: Lower Division requirements. History and philosophy of recreation and leisure and its influence upon contemporary American society.

484. Field Work I (3) F, S Andersen, Kempton
Prerequisites: Consent of instructor, Recreation 211, 241, 312, senior standing; plus a minimum of 1,000 hours of verified paid or volunteer leadership experience, approved by faculty adviser. An intensive leadership experience in an approved agency jointly supervised by university and agency personnel.

485. Field Work II (3) F, S Andersen
Prerequisites: Consent of instructor, Recreation 211, 241, 312, 484, senior standing; plus a minimum of 1,000 hours of verified paid or volunteer leadership experience, approved by faculty adviser. Supervised experiences in recreation leadership, supervision or administration in an approved agency other than the one to which the student was assigned in Recreation 484.

486. Field Work in Outdoor Recreation (3) F, S Minar
Prerequisites: Consent of instructor, Recreation 211, 241, 312, senior standing; plus a minimum of 1,000 hours of verifiable paid or volunteer leadership experience, approved by faculty adviser. Supervised leadership in outdoor recreation program of school, public or other approved agency. Minimum of 80 hours of supervised field experience in an approved agency required.

490. Special Studies in Recreation (1-3) F, S Jensen, Minar
Prerequisite: Senior standing in recreation. Identification and critical analysis of current problems in selected areas of recreation. Topics to be announced in the *Schedule of Classes*. May be repeated for a maximum of six units of credit with change of topic.

491. Therapeutic Recreation Procedures I (3) F Crayton
Analysis of adapted recreational and leisure activities and their relationship to the institutionalized or community based handicapped person. Not open to students with credit in Recreation 490A.

492. Recreation in the Aquatic Environment (3) S Minar
Study of existing marine and fresh water aquatic facilities and programs with emphasis on management skills and techniques. Course content will be supplemented with field trips to provide on-site program and facility analysis.

493. Management of Volunteer Programs (3) F Andersen, Jensen
This course is designed to develop an understanding of volunteer services and their value to agencies; to provide knowledge of the structure and function of social agencies, and to acquire administrative skills which will enable supervisors to provide meaningful roles for volunteers.

496. Research Methodology (3) F, S Thorson
Research methodology in recreation. Must be taken prior to or concurrently with any 500 or 600 level course.

499. Independent Study (1-3) F, S Faculty
Prerequisites: Consent of department and approval by department chairperson. Individual projects in areas of special interest. Independent study under the direct supervision of a faculty member.

Graduate Division

521. Recreation Administration (3)

525. Recreation Areas and Facilities (3)

571. Philosophy, Issues and Trends (3)

575. Problems in Recreation (3)

587. Field Work in Recreation Administration or Supervision (3)

590. Special Topics in Recreation (1-3)

591. Research Proposal Writing (1)

595. Management Studies (3)

697. Directed Studies (1-3)

698. Thesis or Project (1-4)

Vocational Education

Professors: Dean, Stanger.

Assistant Professor: Bott.

Academic Advising Coordinator: Dr. C. Thomas Dean.

The vocational education program is designed to enable persons to gain the skills and knowledge requisite for successful employment in secondary schools, community colleges and adult programs as teachers, coordinators and supervisors of vocational, occupational and career preparation programs.

Bachelor of Vocational Education (code 4-1027)

The bachelor of vocational education degree is designed for teachers who are teaching in a vocational education program and qualify for a Swan Bill evaluation through the State Board of Vocational Examiners in Sacramento. To qualify for the evaluation the requirements of the State Education Code, Section 23956 must be met. This regulation stipulates a minimum period of vocational teaching experience amounting to 1,620 clock hours in a full-time position of 1,000 clock hours in an approved trade extension class. Additional information concerning this degree may be obtained from the dean of the School of Applied Arts and Sciences.

Designated Subject (Vocational) Credential

This program of instruction identifies and develops on an individualized basis the vocational portion of identified teaching competencies requisite for successful employment in vocational programs, as required by the California Commission on Teacher Preparation and Licensing. It is offered in conjunction with the School of Education.

400. Concepts and Elements of Career Education (2) F Faculty
Analysis of the elements and components of career education, including a study of the basic concepts, historical evolution, rationale and existing programs.

401A,B,C. Concepts and Elements of Career and Vocational Education (1,1,1) F, S Faculty
Analysis of the elements and components of career and vocational education including study of the basic concepts, the rationale, the legacy, the various publics and program elements. Not open to students with credit in Vocational Education 400.

402A,B,C. Developing Vocational Programs (1,1,1) F, S Faculty
Specific methods and techniques of the vocational curriculum development process, including needs assessment, program planning, instructional materials development and the various evaluation methodologies. Not open to students with credit in Vocational Education 430.

403A,B,C. Implementing Vocational Programs (1,1,1) F, S Faculty
Study of the role of vocational teachers in assisting students to grow, mature, gain knowledge, competencies and attitudes. Emphasis is placed on the learning process, developing learning activities and evaluation of student achievement. Not open to students with credit in Vocational Education 432.

410. Curricular and Instructional Patterns (2) S Faculty
Specific methods, techniques, curricular taxonomies and organization of vocational education delivery programs.

411. Fire Services Administration (3) On demand Faculty
Organization and management of fire services. Line, staff and auxiliary functions. Problems of policy, procedure and technique. Fire service supervision. Special methods and equipment. Not open to students with credit in Criminal Justice 441. (Lecture-discussion 3 hours.)

412. Fire Prevention Administration (3) On demand Faculty
Prerequisite: Fundamentals of fire prevention or consent of instructor. Organization of Fire Prevention Bureau; laws and regulations, building and fire code administration; coordination with governmental and other organizations; functions of Fire Prevention Bureau; planning and training. Not open to students with credit in Criminal Justice 442. (Lecture-discussion 3 hours.)

413. Fire Protection Administration (3) On demand Faculty
Application of the American Insurance Association's evaluation to fire protection administration; objectives of the evaluation; assessment of deficiency points; factors affecting rating; administrative use of evaluation results; evaluation procedures. Not open to students with credit in Criminal Justice 443. (Lecture-discussion 3 hours.)

414. Fire Disaster Administration (3) On demand Faculty
Prerequisite: Fire fighting tactics and strategy. Fire disaster protection organization; disaster laws; establishment of central communications and field control centers; support groups, manpower and equipment; overhaul and security; disaster and civil defense relationships. Not open to students with credit in Criminal Justice 444. (Lecture-discussion 3 hours.)

415. Fire Defense Planning (3) On demand Faculty
Prerequisite: Fire company organization and management. Community fire defense needs, facilities, master plan development, federal assistance. Application of ISO Grading and Guide for Determining Fire Flow requirements; impact of insurance. Field trips required. (Lecture-discussion 3 hours.)

420. Evaluation of Vocational Education Programs (2) F Faculty
Analysis of evaluation models usable for vocational education programs and systems, including the phases of needs assessment, programs planning, progress, implementation and outcome evaluation.

429. The World of Work (1) F, S Faculty
Identification of the work place including where people work and what they do; labor market aims and projections by cluster and sub cluster of occupations.

430. Program Development (2) F Faculty
Analysis of the role of research and development in causing and shaping change in the delivery of occupational education. Project proposal preparation and assessment.

431. Planning Vocational Instruction (3) F, S Bott
Devising specific units, lessons and learning activities to achieve objectives, occupational analysis for content and the development of instructional materials.

432. Implementing Vocational Instruction (3) F, S Bott
Study of the role of the vocational teacher in assisting students to grow, mature, gain knowledge, competencies and attitudes.

450. Exemplary Practices and Programs (2) F Stanger
Identification of the most effective and efficient practices, methods, techniques, sites and programs including techniques for replication and effecting educational change.

451. Vocational Education in the Community (1) S Faculty
Analysis of increased instructional efforts in business, industry, labor, government; in the Regional Occupation Program; in the work experience mode; in the community classroom; in cooperative education modes.

455. Cooperative and Work Experience Education Modes (2) S Faculty
Review of planning and implementing on-the-job learning experiences and the necessary linkage between the campus and the work place.

480. Internship in Vocational Education (1-4) F, S Stanger
Internship in community or school manpower development programs which involve instruction, administration and research within the career education spectrum.

490. Independent Study in Career Education (1-3) F, S Faculty
Individual research and study under the direction of a faculty member in areas not an integral part of any regular course. Written report is required. May be repeated to a maximum of three units.

497. Practicum in Vocational Education (1) F, S Faculty
Action-oriented organized learnings directed toward identifying the major problems and issues confronting vocational education and suggesting practical solutions for the practitioner. (A) Theoretical aspects, (B) Technical aspects, (C) Related informational aspects, (D) Attitudinal aspects, (F) Management aspects, (G) Human aspects.

499. Special Topics in Career Education (1-3) F, S Stanger
Topics of current interest in career education will be selected for intensive group study. Topics will be announced in the *Schedule of Classes*. May be repeated to a maximum of six units.

Graduate Division

501. Manpower Development and Career Education Programs (3)

502. Vocational Education Administration (3)

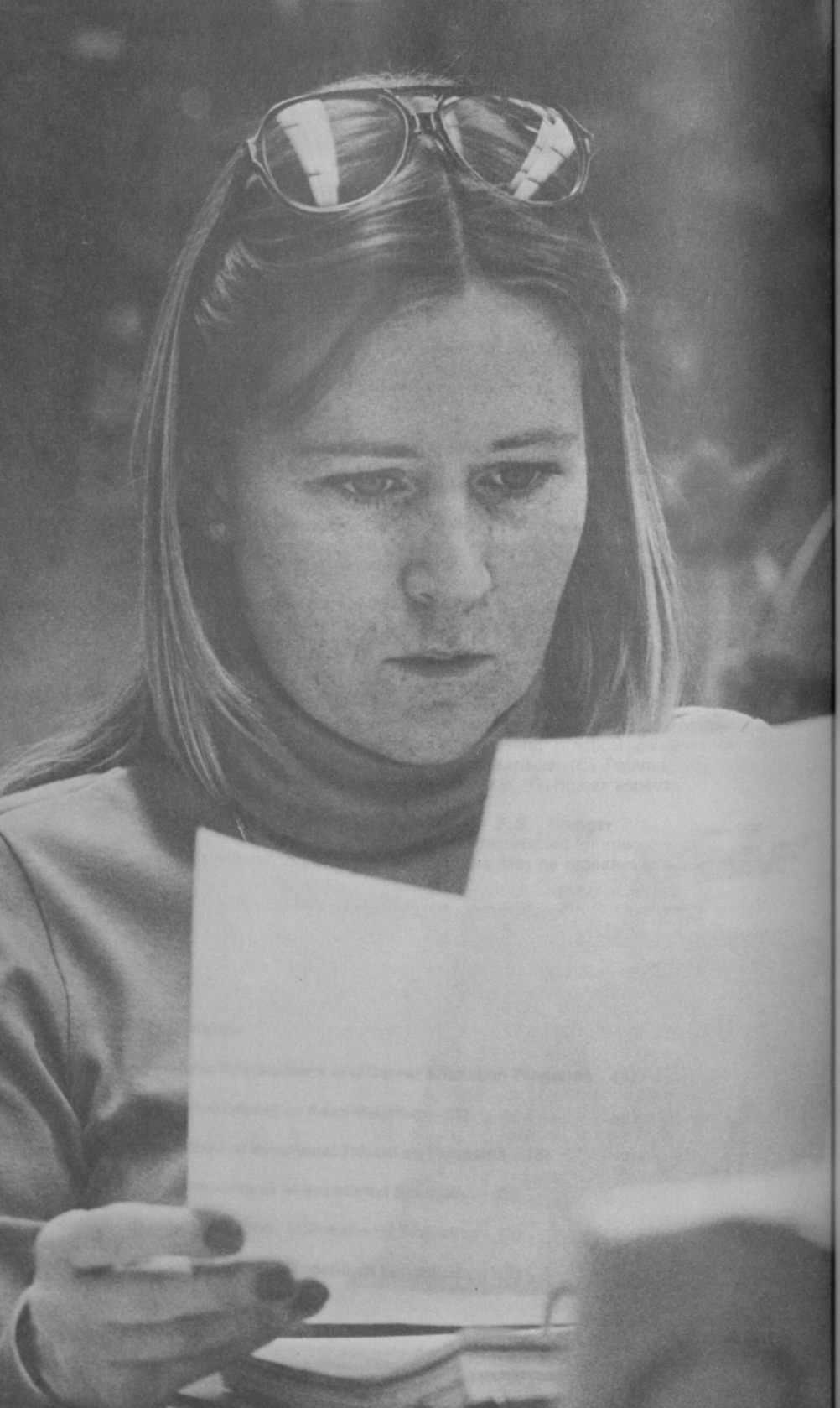
503. Managment of Vocational Education Programs (3)

504. The Environments of Vocational Education (3)

696. Research Methods in Vocational Education (3)

697. Directed Studies in Vocational Education (1-3)

698. Thesis (1-4)



School of Business Administration

Administrative Officers

Seymour Marshak	Dean of the School	SB2-103-A
Mr. John T. Martinelli	Associate Dean	SB2-102

Directory of Departments

Department	*Chair*	*Dept. Offices*
Accounting	Mr. Truman O. Hickerson, Jr.	SB2-226
Finance	Mr. Gene P. Morris	SB2-340
Human Resources Management	Dr. Carl E. Gregory	SB2-205
Management	Dr. Annabelle J. Sartore	SB2-114
Marketing	Dr. Robert W. Frye	SB2-305
Quantitative Systems	Dr. Lincoln L. Chao	SB2-314

Other School Offices

Bureau of Business Services and Research	Dr. Phillip S. Mitchell Director	SB2-105
Graduate/Undergraduate Advisement Center	Mr. John T. Martinelli Director	SB2-120 SB2-118
Electronic Data Processing	Mr. Ronald J. Langley Assistant for EDP	SB2-101
International Business Center	Dr. Feliksas Palubinskas Director	SB1-110
Center for Transportation	Dr. Forrest E. Harding	SB2-301

School of Business Administration

The mission of the School of Business Administration is to prepare students, through the intellectual and learning process, for entry into a career in the business community that will enable the graduate to pursue the quality of a career that he or she chooses and to assure that the pursuit of a career carries with it a contribution to maintaining and enhancing the quality and viability of our society.

Five objectives are established for the faculty and the School of Business Administration:

First, to present and teach the various courses in such a manner as will develop the analytical capabilities of the student.

Second, to develop in the student through the various courses a high proficiency in the skills that are represented in the disciplines across the School so that each graduate represents a product of quality in the discipline.

Third, to inculcate in each student an understanding of, and respect for, the best ethics and moral fiber that prevails across and throughout the business community.

Fourth, to foster and encourage peer learning for the student and establish the foundation for peer and other learning throughout the student's career.

Fifth, to provide each graduate with an enhanced awareness of the necessity of responding to change in order to promote the satisfaction of personal and social needs.

Accounting Department

Professors: Andrews, Cornwell, Gunter, Hickerson, Lewis, McKinnon, Martinelli, Moustafa, Stone, Suttle, Tillman, Williamson.

Associate Professors: Berkshire, Cho, Ewing-Chow, Hopewell, LaPage, Maury, Mosler, Wilson.

Assistant Professor: Hill.

Lecturers: Allen, Sternbach.

Academic Advising Coordinator: Department Chair.

Finance Department

Professors: Beecher, Belt, Dilbeck, Farrell, George, Harlow, Kearney, McCulloch, Teweles.

Associate Professors: Levine, Morris, Pastrana, Runyon, Sachdeva.

Assistant Professor: Parenzen.

Lecturers: Erler, Forsythe, Rhoads.

Academic Advising Coordinators: Dr. Raymond R. Farrell, Mr. Gene P. Morris.

Human Resources Management Department

Professors: Gregory, Kirkpatrick, Quinn, Simons, Teel.

Associate Professors: Lewis, Traynor, Whitcomb.

Assistant Professor: Inderlied.

Lecturer: Kraft.

Academic Advising Coordinator: Dr. Carl E. Gregory.

Management Department

Emeritus: Glenn H. Stewart.

Professors: Hamburger, Heise, Laufer, Metzger, Stanton, Stone.

Associate Professors: Bates, Campo-Flores, DeVoe, Ford, Lyle, Morse, Rudkin, Sartore, Smith.

Lecturers: Mitchell, Richard, Ryder, Salvate, Vaid-Raizada.

Academic Advising Coordinator: Mr. Gerald L. Ford.

Marketing Department

Professors: Ash, Butcher, Cotta, Frye, Hall, Harding, Holmes, Marshak, Palubinskas, Spiller, Stuteville, Wolff.

Associate Professor: Klein.

Academic Advising Coordinator: Department Chair.

Quantitative Systems

Emeriti: Braxton C. Henderson, Harry G. Romig.

Professors: Burras, Chao, Doud, Keester, Nelson, Stinson, Wollmer.

Associate Professors: Gillis, Gilon, King, Payne, Pickard.

Lecturer: Lin.

Academic Advising Coordinators:
Administrative Systems Option: Mr. Ronald King.
Quantitative Methods Option: Dr. Carl Payne.

The School of Business Administration offers both undergraduate and graduate courses of study, leading to the following degrees:

Bachelor of Science with options in
- Accounting
- Administrative Systems
- Finance
- Management
- Manpower Management
- Marketing
- Operations Management
- Quantitative Methods

Master of Business Administration

Master of Science (with options)

Certificate Program

In addition to the degrees, a certification program is offered in *International Business*.

Requirements

Specific requirements for the bachelor of science degree are located under the appropriate sections in this Bulletin. Information regarding the graduate programs and requirements for graduate degrees will be found in the *Graduate Bulletin*.

Business Courses for General Education

Students in other schools of the University may elect courses offered by the various departments in the School of Business Administration. Many courses are suitable for meeting the general education requirement of eight units of optional electives.

Accreditation

The School of Business Administration undergraduate and graduate programs are nationally accredited by the American Assembly of Collegiate Schools of Business.

Advisement

The School of Business Administration maintains an advisement/counseling office. Students are urged to consult this office well in advance of registration day for advice on degree requirements or on other matters regarding the School's offerings.

Bureau of Business Services and Research

The bureau's mission is to foster research and to serve as a bridge to the business community.

International Business Center

The center administers the Certificate Program in International Business. In so doing the center attempts to advance the skills and interests of those students with a view towards a career in international business.

Student Activities

The Associated Business Students Organization Council represents recognized departmental organizations such as the Accounting Society (Beta Alpha Psi), Finance Association, Society for the Advancement of Management, Marketing Society, as well as other social/fraternal business organizations including the National Association of Black Accountants, the Law Society, Association for the Advancement of Women into Management, American Marketing Association, Beta Gamma Sigma, A.I.E.S.E.C., Pi Sigma Epsilon, Alpha Kappa Psi. The council is composed of elected officers from the listed organizations and serves as a facilitator in coordinating the numerous student activities. Membership information about departmental organizations can be obtained from departmental offices.

Project Achievement

This is an organized activity developed to attract contributions to be used for financially assisting those with high grade point averages who need financial aid to enter or continue in the School of Business Administration's undergraduate or graduate program. The program consists of fellowships, scholarships and tutorial assistance. Application should be made to the Associate Dean of the school.

Real Estate Industry Awards Program

The Real Estate Industry of Long Beach, through the Board of Realtors, provides financial support for a number of $1000 annual fellowships and $500 annual scholarships. In addition, several "name" scholarships are available through individual donors. Although the program gives preference to applicants from Long Beach City College, others may apply. Those interested should consult the Associate Dean.

Sea-Land Service Corporation Scholarships

Available from Sea-Land Corporation are four two-year scholarships of $2,000 each per year payable at the rate of $200 monthly. Two scholarships will be awarded in the spring and two in the fall semester, beginning with the fall 1978 semester.

The scholarships will be awarded to benefit "disadvantaged" students who are studying transportation and international business in their junior and senior year. For details inquiry should be made to the Associate Dean, School of Business Administration.

Center for Transportation Studies

The Center initiates and conducts studies, usually in conjunction with industry, in the transportation areas of marine, airlines, railroads, and motor transport.

Board of Advisors

The school periodically meets with its board of advisors, composed of executives of the region in order to maintain communication between the school and the business community.

Operation Outreach

Jointly with the Continuing Education Office, the school from time to time offers courses in management or other business subjects in a seminar or conference format.

Executive Encounter Series

Through the student organizations, several times each semester prominent executives are invited to the campus for direct discussions with students.

Computer Technology

The school maintains a broad program whereby all departments provide course work involving computer technology. In addition, the school maintains its own computer terminal facility.

Bachelor of Science Degree with a major in Business Administration

Degree Requirements

A minimum of 124 units, to include:

1. A minimum of 50 units in general education, to include:
   a. Meeting of General Education requirements of the University. Only one of the mathematics courses and the economics courses listed below may be utilized for meeting the General Education requirements. (Courses in the School of Business Administration may not be used for this General Education requirement.)
   b. Philosophy 160 or 170 (accounting majors must take 160); Mathematics 114, 115B; Economics 200, 201.
2. A minimum of 51 units in business administration and related courses, to include:

   Lower Division: (9 units) Accounting 201, Quantitative Systems 240; Finance 222.

   Upper Division: (27 units) Accounting 310 (accounting majors must substitute 320); Economics 333; Finance 324, 362; Marketing 300; Management 300, 425; Manpower Management 360 or 361 (management and operations management majors must take 361); Quantitative Systems 310 or 410 (students intending to pursue graduate work in business must take 410).
3. One of the options listed (15 units).

   Business Administration Electives (balance of required units): The School offers certain more specialized courses in the various areas which may be taken as electives. Courses taught by the department offering the student's option, however, may be selected as electives only with the prior approval of the department chairperson. The student is encouraged to select electives for expansion of knowledge, whether for intellectual interests or employment preparation purposes. Students should consult the School of Business Administration adviser for guidance in selection of electives.

Option in General Accounting (code 3-2705)
Option in Professional Accounting (code 3-2706)

The accounting curriculum offers study in the nature, theory and general problems of accounting with the objective of providing responsible leadership in a dynamic business world and community. On a broad base of general education and business administration courses, the accounting preparation seeks to develop in the student an understanding of an organization's management information system. The general accounting program provides a

background both for the student interested in accounting as a career in business enterprizes, and for the person planning on entering the field of public accounting. The professional accounting program affords the student interested in specializing in either business enterprizes, not-for-profit organizations, or in the field of public accounting, a more flexible, but emphatic program to meet the student's specific career objectives.

General Accounting Option Requirements:

(124 units minimum) Philosophy 160, English/Speech Communication 303, Accounting 300A-B, 400, 450, 470.

Professional Accounting Option Requirements:

(128 units minimum) Philosophy 160, English/Speech Communication 303, Accounting 300A-B, 450 and

With a concentration in public accounting: Accounting 400, 470, and six units elected from the 400-level accounting courses.

With a concentration in business or not-for-profit accounting: Accounting 410, 475 and six units elected from the 400-level accounting courses.

Option in Administrative Systems (code 3-2720)

This option, administered within the Quantitative Systems Department, prepares its majors for positions of responsiblity as administrative managers and related careers in business, industry, education and government. It is designed to give an understanding of the problems of administrative management and a knowledge of the principles, procedures and abilities needed to solve these problems. The program includes a substantial number of topics included in the Certified Administrative Manager examination of the Administrative Management Society.

Administrative Systems Option Requirements:

Quantitative Systems 302, 331, 402, 432, 433.

Minor in Administrative Systems (code 0-2720)

The minor in administrative systems requires a minimum of 18 units and must include: Accounting 201, Quantitative Systems 240, 302, 331, 432 and one of the following: Quantitative Systems 402 or 433.

Option in Finance (code 3-2710)

The finance curriculum offers training in the administration, techniques and regulations applicable to business finance, investments, insurance and risk management and real estate. The study of the institutions of American finance, their customs, practices and legal framework gives a basis from which the student builds an understanding of the demand function of finance. The supply function is studied through offerings in investments including analysis of securities and commodities coupled with analysis of their price trends and turning points. Special concentration in the study of acquisition, administration and distribution of funds for the individual business firm as well as the supplying of funds by individuals and institutions for investment in private enterprise. The finance major may direct the concentration toward financial management, investments, insurance or real estate.

Finance Option Requirements:

1. Finance 382 and either 302 or 342.
2. Three courses in one of the following areas of concentration:
   Financial Management: Finance 360, 464, 484, 490.
   Investment: Finance 464, 484, 486, 488.
   Real Estate: Finance 444, 446, 449.
3. English/Speech Communication 303 or Quantitative Systems 402.

Option in Management (code 3-2745)

The purpose of the management curriculum is to prepare students for careers where they will be required to create and maintain an internal environment which, when interfaced with the external environment, will yield a continuously successful enterprise. Human values and ethics important to managers as well as philosophical bases for the practice of management are stressed. With this educational background and appropriate experience, the graduate should be able to eventually fulfill a meaningful role in top management consistent with the above objective.

Management Option Requirements:

Management 326 and 426 and three of the following: 401, 405, 421, 422.

Option in Manpower Management (code 3-2740)

The manpower management option, within the Human Resources Management Department, offers education in theories, policies and practices relevant to the manager's crucial task of influencing others to work toward organizational goals. The curriculum is designed both for students who wish to specialize in the personnel or industrial relations field and for those who wish to obtain a background which will permit them to function more effectively in any management position. The courses offered provide an in-depth analysis of interpersonal relations (such as those between a manager and staff members) and intergroup relations (such as those between management and labor). Major objectives of this option are (1) to acquaint students with the types of management problems encountered in modern society, (2) to encourage them to develop an analytical approach to defining and solving those problems, and (3) to acquaint them with theories and practices on which effective courses of action can be based. Manpower management majors may direct their concentration toward either personnel management or labor relations.

Manpower Management Option Requirements:

1. Manpower Management 360 or 361 (whichever is not taken in the core), 362.
2. Three courses in one of the following areas of concentration:
   Personnel Management: Manpower Management 446, 463, 464, 465.
   Labor Relations: Manpower Management 440 and two courses chosen from Manpower Management 445, 464, 465.

Minor in Manpower Management (code 0-2740)

Upper Division: A minimum of 18 units which must include Management 361 and a minimum of 15 units selected from Management 360, 362, 440, 445, 446, 463, 464, 465 or 495 as approved by the Human Resources Management Department. In some instances a student may be permitted to substitute a maximum of six units of appropriate and related courses from other academic areas for courses in the above list. Students must have written approval from the academic advising coordinator.

Option in Marketing (code 3-2750)

The marketing curriculum is designed to enable the student to approach analytically the problem of providing consumer and industrial goods and services to a wide variety of markets by equipping him or her with modern problem-solving tools. The curriculum prepares the student for positions in sales, advertising, promotion, research, product management and marketing management. Further, the study of dynamic problems that affect all enterprises in communicating with their publics helps prepare the student for a career in commercial, governmental and service organizations that serve the public in ways other than producing tangible goods.

The integrated sequence of courses gives students broad training in the field of marketing. There is a common body of knowledge basic to understanding of the discipline. Beyond that the student may choose from among a group of elective courses to attain greater depth and sophistication in the field of salesmanship, advertising, transportation, industrial and international marketing.

Marketing Option Requirements:

Marketing 300, 408.

Four additional courses from the following, at least one course from each group, but not more than one course may be from Group 1.

Group 1. Marketing Foundations: Marketing 310, 320, 330, 340, 380.

Group 2. Marketing Systems and Strategies: Marketing 401, 430, 432, 442, 465, 480.

Group 3. Behavior and Research: Marketing 403, 404, 470, 473*, 490.

Note: A 495 course or 497 course may be applied to either Group 2 or Group 3.

Minor in Marketing (code 0-2750)

Upper Division: A minimum of 18 units which must include Marketing 300 and a minimum of 15 units selected from Marketing 310, 320, 330, 340, 380, 401, 403, 408, 430, 440, 441, 442, 465, 470, 473, 480, 490 and 495 as approved by the Marketing Department. In some instances a student may be permitted to substitute a maximum of six units of appropriate and related courses from other academic areas for courses in the above list.

Option in Operations Management (code 3-2758)

The objective of the operations management curriculum is to stimulate student competence in the conceptual, systemic and analytical tools and managerial philosophy prerequisite for entry and advanced positions in both goods-producing and service-oriented industries. Emphasis is placed on the systems approach which stresses the concepts, techniques and policies essential for the economical and effective design, operation and control of the material, manpower, facilities, capital and informational inputs of organizations.

Operations Management Option Requirements:

Management 302, 401, 402 and two of the following: 406, 407, 426.

Option in Quantitative Methods (code 3-2772)

This option, administered within the Quantitative Systems Department, leads toward quantitatively-oriented careers in business, industrial, educational and governmental organizations. It provides a foundation for problem solving and

* Marketing 473 previously numbered 373.

decision making using the methods of statistics, operations research and computer technology in such positions as operations research analysts, administrators, data processing managers and systems analysts.

Emphasis is placed upon concepts and methods in the business environment, rather than upon mathematical development of theory.

Quantitative Methods Option Requirements:

1. Quantitative Systems 442.
2. Four courses in one of the following areas of concentration:
   Operations Research and Statistics: Quantitative Systems 410, 411, 460, 463;
   Business Computer Methods: Quantitative Systems 413, 432, 445, 466.

Undergraduate Certificate Program in International Business

The past decades have seen a phenomenal growth of multinational companies in most major countries of the globe and the consequential internationalization of the business world. As a result, multinational firms, governments and international organizations have shown an increased demand for individuals with an international perspective.

The Undergraduate Certificate in International Business is a program of study in conjunction with the undergraduate degree in business and provides additional training in the international business area not normally covered in the traditional business courses.

The objective of the program is to enhance the perception and adaption of the student's personal and functional skills to the international business environment.

Courses used to comply with the certificate requirements may also be counted, where applicable, toward the General Education requirements, the School of Business Administration requirements and departmental requirements for bachelor's degree.

Requirements for the Undergraduate Certificate in International Business

1. A bachelor's degree with a major in business administration.
2. A minimum of 15 units of international business course work at this University, including the following: Marketing 380, Accounting 465, Finance 490, Management 405 and Marketing 480.
3. A grade point achievement of a minimum of 2.0 on a scale of 4.0 will be required in every course taken for the certificate program.
4. No pass/fail option will be allowed for the certificate program.

Any deviation from this program requires the written permission of the program director.

For additional information and applications students should contact Dr. Feliksas Palubinskas, Director of the Certificate Program in International Business, School of Business Administration.

Policy Regarding Concurrent Enrollment in Community College or Another College

Undergraduate students who wish to take course work in a community college or another college to meet CSULB School of Business Administration requirements while enrolled as an undergraduate in business administration at CSULB must petition the Undergraduate Council in advance for permission to enroll in specific courses. University policy must also be complied with. (See "Registration Procedures" and "Transfer of Undergraduate Credit" in this Bulletin.)

Accounting

Lower Division

201. Elementary Financial Accounting (3) F, S Faculty
Introduction to financial acounting theory and practice. For business majors. Not open to students with credit in Accounting 200A and 200B.

202. Accounting Concepts (3) F, S Faculty
Financial and managerial accounting concepts with emphasis on utilization of accounting data in management decisions. For non-business majors only.

Upper Division

300A-B. Intermediate Accounting (3,3) F, S Faculty
Prerequisites: Accounting 200A and 200B or 201; 300B: Accounting 300A with a grade of "C" or better. Intermediate accounting theory including recording, valuation, and statement presentation of assets, liabilities, capital, earnings; funds statements; financial analysis.

310. Managerial Accounting (3) F, S Faculty
Prerequisites: Accounting 200A and B or 201. Use and interpretation of financial statements; evaluation of internal control and systems; accounting for and analysis of costs; budget concepts and preparation; interpretation of accounting data for management decision making. Not open to accounting majors for course or unit credit.

320. Cost Accounting (3) F, S Faculty
Prerequisites: Accounting 200A and 200B or 201. Theory of cost accounting and cost control, including job order and process costs, standard costs, budgeting, direct costing, and management utilization of cost information.

400. Advanced Accounting (3) F, S Berkshire, Cornwell, McKinnon, Suttle, Williamson
Prerequisites: Accounting 300A and 300B or 501 with grades of "C" or better. Specialized problems in partnership and corporate accounting, agencies and branches, consolidated financial statements, organizations in financial distress, estate and trust accounting.

410. Advanced Managerial Accounting (3) F, S Faculty
Prerequisite: Accounting 320 with a grade of "C" or better. Managerial accounting concepts as they apply to planning, decision making, performance evaluation and control.

430. Quantitative Methods in Accounting and Auditing (3) F, S Stone
Prerequisites: Quantitative Systems 310 and any 300 level accounting course with a grade of "C" or better. Application and theory of quantitative methods in accounting and auditing. Will include some problems relating to the uniform Certified Public Accountant examination.

434. Decision Analysis in Accounting and Finance (3) F, S Stone
Prerequisites: Quantitative Systems 310 and either Accounting 200A and B or 201, or 500 with a grade of "C" or better. Application of decision theory and information theory to financial, investment and other problems of the firm and the individual.

450. Federal and State Tax Law and Accounting I (3) F, S Gunter, Maury, Mosier, Wilson
Prerequisite: One of the following: Accounting 300A, 310, 320, 501 with a grade of "C" or better. Federal and state income tax structure as related to individuals, including laws, rulings and regulations.

451. Federal and State Tax Law and Accounting II (3) F, S Maury, Mosier
Prerequisite: Accounting 450 with a grade of "C" or better. Federal and state income tax structure as related to partnerships, corporations, estates and trusts, and gift taxes, including laws, rulings and regulations.

460. Accounting for Nonprofit Organizations (3) F, S Berkshire
Prerequisites: Accounting 300B and 320 with grades of "C" or better. Financial and managerial accounting concepts as they apply to organizations whose objectives are primarily to provide service rather than generate profit.

465. International Accounting (3) F Ewing-Chow
Prerequisite: Any 300-level accounting course with grade of "C" or better. Examination of accounting theory and practice from an international perspective.

470. Auditing (3) F, S Gunter, Hickerson, Suttle, Faculty
Prerequisites: Accounting 320 and 300A and 300B or 501 with grades of "C" or better. Problems of verification, valuation and presentation of financial information in reports covered by the opinion of an independent public accountant. Responsibilities of the public accountant and rules of professional conduct.

475. Operations Auditing (3) F, S Ewing-Chow
Prerequisites: Accounting 410 with a grade of "C" or better, Management 300. Financial and managerial auditing concepts as applied to the evaluation of activities of and by an organization.

480. Accounting Systems and Data Processing (3) F, S Faculty
Prerequisites: Accounting 320 and 300A and 300B or 501 with grades of "C" or better or consent of instructor. Design and installation of accounting systems; unification of accounting systems and data processing within organizational structures.

497. Directed Studies (1-3) F, S Faculty
Prerequisites: Consent of instructor and department chair, on Dean's List and 3.0 GPA or higher in accounting. Individual projects, study and research of advanced nature in accounting.

Graduate Division

500. Managerial and Financial Accounting (3)
501. Intermediate Accounting (3)
510. Advanced Cost Accounting, Budgeting and Control (3)
610. Seminar in Accounting Theory (3)
612. Advanced Tax Law and Accounting (3)
614. Seminar in Accounting Management and Controllership (3)
616. Seminar in Contemporary Accounting Problems (3)

Finance

Lower Division

200A. Introduction to Law (1) F, S Faculty
For non-business majors only. Examination of legal remedies, the attorney/client relationship, the court systems, civil trial process, criminal trial process and judicial/administrative decision-making. Three-week modular course covering 15 hours of classwork.

200B. Personal Law (2) F, S Faculty
Recommended prerequisite: Finance 200A or any introductory law course. Torts, contract rights and remedies, wills and estates, laws affecting the rights of the landlord/tenant and the purchase of property, marriage, divorce, family law and race and sex discrimination in employment and education. Six-week modular course covering 30 hours of classwork.

200C. Consumer Law (2) F, S Faculty
Recommended prerequisite: Finance 200A or any introductory law course. Consumer problems in the marketplace, specific protective legislative enactments, warranties and product liability, consumer rights and remedies and the rising power of government regulatory agencies. Six-week modular course covering 30 hours of classwork.

222. Legal Aspects of Business Transactions (3) F, S Faculty
Introduction to law and the legal system, elements of contracts and sales, fundamental factors governing commercial paper.

Upper Division

302. Insurance Principles (3) F, S Faculty
Principles of risk-bearing and insurance; life and property-liability insurance needs of the individual. Types of carriers and insurance markets; organization and functions of carriers; industry regulation.

324. Legal Aspects of Business Organizations (3) F, S Faculty
Prerequisite: Finance 222. Laws governing agency, partnerships and corporations and property.

342. Real Estate Principles and Practices (3) F, S Faculty
Major forces affecting real property values and the real estate industry including production of real estate resources, marketing and financing of land based on valuation processes as related to location and development; effects of business trends and government regulation; rural and urban real estate development and transfer. Role of residential, commercial and individual construction in the health of American economic system is closely examined.

360. Capital Markets (3) F, S Faculty
Capital formation, rates, markets and institutions. Flow of fund analysis, intermediation, interest rate structures, risks and liquidity. Financial management of institutions and regulation of markets.

362. Business Finance (3) F, S Faculty
Prerequisites: Economics 200 or 201 or 300; Accounting 201 or equivalent. Different forms of ownership organization emphasizing significance of corporate form. Methods, instruments, control factors in raising, administering, distributing funds of business firms; working and fixed capital requirements; internal and external fund sources; financial aspects of promotion, growth, reorganization, liquidation.

382. Investment Principles (3) F, S Belt, Harlow, Runyon
Prerequisite: Finance 362. Development of a rational investment philosophy. Analysis of investor objectives, risks and returns; valuation principles; technical approach to price patterns, trends and turning points. Alternative investment media.

432. The Consumer: A Socio-Legal Approach (3) F George, Klein
Psychology of the consumer and growth of the consumer movement. Major issues including problems relating to advertising, sales practices, pricing, warranties and product safety. A study of consumer protection legislation. An examination of legal remedies and corporate responsibility. Same course as Marketing 432.

434. Decision Analysis in Accounting and Finance (3) F, S Faculty
Prerequisites: Quantitative Systems 310 and either Accounting 200B or 201 or 500. Application and theory of scientific techniques used by accountants to provide and utilize information for making decisions. Includes some problems relating to the uniform Certified Public Accountant examination. Same course as Accounting 434.

444. Legal Aspects of Real Estate (3) F, S Faculty
Prerequisite: Finance 342. Basic principles of the law of real estate as related to conveyances, titles, private and public restrictions on the use of land, escrows, community property and financial transactions.

446. Real Estate Appraisal (3) F, S Faculty
Prerequisites: Accounting 201, Finance 342. Development of the capacity for selection of criteria for establishing real property values and the determination of alternative uses and locations.

448. Real Estate Economics (3) F, S Faculty
Land use patterns and economic implications. Influence on real estate development. Understanding real estate markets in terms of supply and demand factors. Capital markets influence on real estate markets. Government involvement in real estate markets.

449. Real Estate Finance and Investments (3) F, S Faculty
Prerequisite: Finance 342. Markets, institutions, instruments and techniques involved in real estate finance. Analysis of investment opportunities in residential income, commercial, raw land and other properties from the individual's standpoint.

450. Advanced Real Estate Investment (3) F, S Faculty
Prerequisites: Finance 342 and 444 with a grade of "C" or better. Examines the interactions of finance, business risks and taxation of various types of real properties to achieve superior portfolio effects.

452. Real Estate Development (3) F, S Faculty
Prerequisites: Finance 342 and 444 with a grade of "C" or better. Feasibility analysis, demand analysis and cost estimating. Planning prodecures. Preparation of reports and documents for permits and approvals. Site selection and analysis. Architectural and landscaping analysis. Project management. Marketing.

464. Financial Management (3) F, S Beecher, Dilbeck, Runyon
Prerequisites: Finance 362 and Accounting 300B or 310. Application of financial functions and decisions. Flow-of-funds. Analysis in working capital management; capital budgeting, capitalization and income models. Business combination analysis.

484. Security Analysis (3) F, S Belt
Prerequisite: Finance 382. Analysis of securities by industries and individual companies. Application of quantitative techniques in evaluating financial condition, operations, growth and management. Principles of portfolio management.

486. Security Markets (3) F, S Belt, Teweles
Prerequisite: Finance 362. Examination of purposes and functions of over-the-counter markets and organized exchanges for securities marketing. Operations of New York Stock Exchange and Chicago Board of Trade are reviewed. Fundamental and technical aspects of securities industry required of individuals in qualifying for certificates as customers brokers, security salesmen and analysts and other registered positions of finance and investment.

488. Commodity Markets (3) F, S Harlow, Teweles
Prerequisite: Finance 362 or Marketing 300 or consent of instructor. History and nature of commodity futures trading. Operation of commodity futures exchanges. Fundamental and technical devices used by successful commodity traders.

490. International Finance (3) F, S McCulloch, Morris
Prerequisite: Finance 362. Various real and monetary factors in the finance of international business. International capital markets, movements of funds and special problem areas.

495. Selected Topics (1-3) F, S Faculty
Prerequisites: Consent of instructor and grade point of 3.0 in finance. Topics of current interest in finance selected for intensive study. May be repeated for a maximum of 6 units. Topics will be announced in the *Schedule of Classes*.

497. Directed Studies (1-3) F, S Faculty
Prerequisites: Consent of instructor and department chair, on Dean's List and 3.0 GPA or higher in finance. Individual projects, study and research of advanced nature in finance.

Graduate Division

500. Legal Environment of Business (3)

501. Finance Survey (3)

530. Problems in Insurance and Risk Management (3)

531. Estate Planning (3)

532. Problems in Real Estate (3)

533. Capital Budgeting (3)

630. Seminar in Financial Forecasting (3)

631. Seminar in Business Finance (3)

633. Seminar in Investments (3)

691. Seminar in International Finance (3)

Human Resources Management

Upper Division

360. Behavioral Sciences and Management (3) F, S Inderlied, Lewis, Simons, Traynor, Whitcomb, Faculty
Contributions of the behavioral sciences to more effective use of human resources in industry. Emphasis on theories of employee motivation, case studies of human relations problems and techniques for integrating individual and organizational goals.

361. Manpower Management (3) F, S Lewis, Quinn, Traynor, Faculty
Survey of theories, policies and practices governing employer-employee relations in such areas as labor-management, organization, selection, training, salary administration, communications and management development. Emphasis on the research approach to solving management problems.

362. Labor Relations (3) F, S Simons, Faculty
Development, aims, structure and functions of labor and employer organizations; the nature and objectives of management; the bargaining process; labor law and governmental intervention; dispute settlement techniques; unemployment; unions and minorities; and employee organizations in government and the professions. Not open to students with credit in Economics 340.

440. Collective Bargaining (3) F, S Traynor, Faculty
Prerequisite: Manpower Management 361. Collective negotiations. Examination of the roles of management, labor and government in structuring work environments. Nature of the process of negotiation and conflict resolution in organization.

445. Job Analysis and Evaluation (3) F, S Quinn, Faculty
Prerequisite: Manpower Management 361. Techniques of obtaining, verifying, organizing, storing and retrieving information about jobs. Analysis of multiple uses of occupational information.

446. Organizational Creativity (3) F, S Gregory
Theory and practice in the application of creative problem solving for achieving of objectives in all areas of business. Nonquantitative emphasis on the use of creative research methodology in decision making: classroom exercises and case studies.

463. Personnel Development (3) F, S Inderlied, Simons, Whitcomb, Faculty
Prerequisite: Manpower Management 361. Criteria for identifying development and training needs of managers, supervisors and employees. Survey and critical analysis of current industrial programs and trends.

464. Managerial Psychology (3) F, S Inderlied, Kirkpatrick, Simons, Whitcomb, Faculty
Prerequisite: Manpower Management 360. Principles of psychology and their applications to individual, small group and organizational behavior. Emphasis on personnel assessment, management development, morale and organizational effectiveness.

465. Personnel Selection and Appraisal (3) F, S Teel
Prerequisite: Manpower Management 360 or 361 or consent of instructor. Survey and critical analysis of techniques for identifying personnel requirements, recruiting an adequate supply of candidates, selecting the best qualified applicants and appraising on-the-job performance, both of individuals and of organizations. Entry-level through top management jobs considered. Emphasis on student participation in developing and/or using selection and appraisal techniques.

466. Behavioral Science and Change (3) F, S Inderlied, Lewis, Whitcomb
Prerequisite: Manpower Management 360. Provides a theoretical foundation for the change processes, as well as practical application of concepts. It will include a study of the process of change in individuals, groups and organizations, focusing on theory, research and current practices. The skills needed to manage change and to plan for innovation in institutions and organizations will be explored. Concepts and methods will be tested through individual and group projects.

495. Selected Topics (1-3) F, S Faculty
Prerequisites: Consent of instructor and grade point of 3.0 in manpower management. Topics of current interest in manpower management selected for intensive study. May be repeated for a maximum of 6 units. Topics will be announced in the *Schedule of Classes*.

497. Directed Studies (1-3) F, S Gregory
Prerequisites: Consent of instructor and department chair, on Dean's List and 3.0 GPA or higher in manpower management. Individual projects, study and research of advanced nature in manpower management.

Graduate Division

500. Manpower Management (3)

552. Comparative Labor Relations Systems (3)

554. Labor Arbitration (3)

556. Management of Minority Groups (3)

650. Seminar in Labor Relations (3)

652. Seminar in Personnel Management (3)

655. Seminar in Employee Motivation (3)

695. Special Topics in Manpower Management (3)

697. Directed Studies (1-3)

Management

Upper Division

300. Operations Management (3) F, S Laufer, Rudkin, Stanton, Stone
Recommended preparation: Quantitative Systems 310. Analysis of theory and philosophy of operations management and of the principles of planning and control of the operations system. Emphasis on available tools for decision making.

302. Industrial Operations (3) F, S DeVoe
Recommended preparation: Management 300 or equivalent. Analysis of the principles of industrial processes and the operations in a system; philosophies of basic operations and decision making in the selection of operations and the state of technology in a system.

303. Introduction to Management (3) F, S Hamburger, Lyle, Metzger
Survey of the various theories, principles and concepts of management as developed by the classical, behavioral and management science schools of thought. This course is primarily intended for the student who needs to acquire introductory and unifying knowledge in management theories and concepts.

326. Management and Society (3) F, S Heise, Morse, Stone
Issues of current concern to corporate oligarchs; analysis of management's responsibilities to stock holders, employees, customers, the government and society. Issues include profits, pollution, ownership of research and social accountability.

401. Work Design and Measurement (3) F, S DeVoe, Kiang, Laufer, Rudkin
Recommended preparation: Management 300 or 500. Analysis of principles and theory of motion economy; work place and equipment design with emphasis on ergonomics and human engineering; principles of work measurement.

402. Inventory Management (3) F, S Lyle
Recommended preparation: Management 300 or equivalent. Analysis of principles and philosophies of operation scheduling, inventory control and their interactions.

405. International and Comparative Management (3) F, S Bates, Flores
Recommended preparation: Management 425 or 500. Analysis of the functions of management in international business; comparative management studies, and the impact of the environment on management performance.

406. Quality Management (3) F, S Hamburger, Rudkin
Recommended preparation: Management 300 or equivalent. Analysis of the principles and purposes of quality control and the study of the methods of managerial decision making.

407. Logistics Management (3) F, S Lyle
Recommended preparation: Management 300 or equivalent. Analysis of principles and philosophies of planning materials requirements, acquisition processes and distribution in all types of organizations, and the study of the methods of logistics decision making.

421. Management of Small Business Enterprises (3) F, S Flores, Heise, Stanton, Stone
Analysis of the formation of management functions and decision making as related to small enterprise. Cases and problems will be examined.

422. Sociotechnical Systems . (3) F, S Sartore, Smith
Design philosophies for identifying and measuring elements of sociotechnical systems. Analysis of the interrelationship of technology and work groups. Technological change and social change models. Technological forecasting.

423. Women in Management (3) F, S Morse
The new role of women in management. Examines stereotypes of women in business and strategies for bringing women into management. Considers legal, social and interpersonal factors. Course will provide interactive skills for both men and women in management. Open to women and men.

425. Administrative Organization Systems and Business Policy (3) F, S Faculty
Recommended preparation: Senior standing. Analysis of the principles and theory of administrative organizations, information systems, management functions, decision-making tools, strategies and administrative policy formulations. Business problems and cases will be used extensively.

426. Management and Information Systems (3) F, S Smith
Evaluation of concepts, analysis and design of management information systems; management decision models, strategies for implementing system changes. Not open to students with credit in Office Management 432.

450. Comparative Management Systems (3) On demand Faculty
Study of management structures, function and responsibility under conditions other than those found today in the United States. Countries studied will vary from year to year; limited foreign terminology may be developed and used in the course.

451. Comparative Management Communication Systems (3) On demand Faculty
Continuation of Management 450 with renewed emphasis on management style and skill required under the prevalent social and political condition in the particular country. Countries studied will vary from year to year; limited foreign terminology may be developed and used in the course.

495. Selected Topics (1-3) F, S Faculty
Prerequisites: Consent of instructor and grade point of 3.0 in management and operations management. Topics of current interest in management selected for intensive study. May be repeated for a maximum of 6 units. Topics will be announced in the *Schedule of Classes.*

497. Directed Studies (1-3) F, S Faculty
Prerequisites: Consent of instructor and department chair, on Dean's List and 3.0 GPA or higher in management. Individual projects, study and research of advanced nature in management.

Graduate Division

500. Business Policies, Operations and Organization (3)

541. Industrial Logistics (3)

542. Enterprise Structure and Operation (3)

543. International Business Policy (3)

544. Management and Operations Management Decision Making (3)

640A,B. Seminar in Operations Management (3,3)

641. Seminar in Advanced Production-Inventory Systems (3)

642. Seminar in Operations Management Simulation (3)

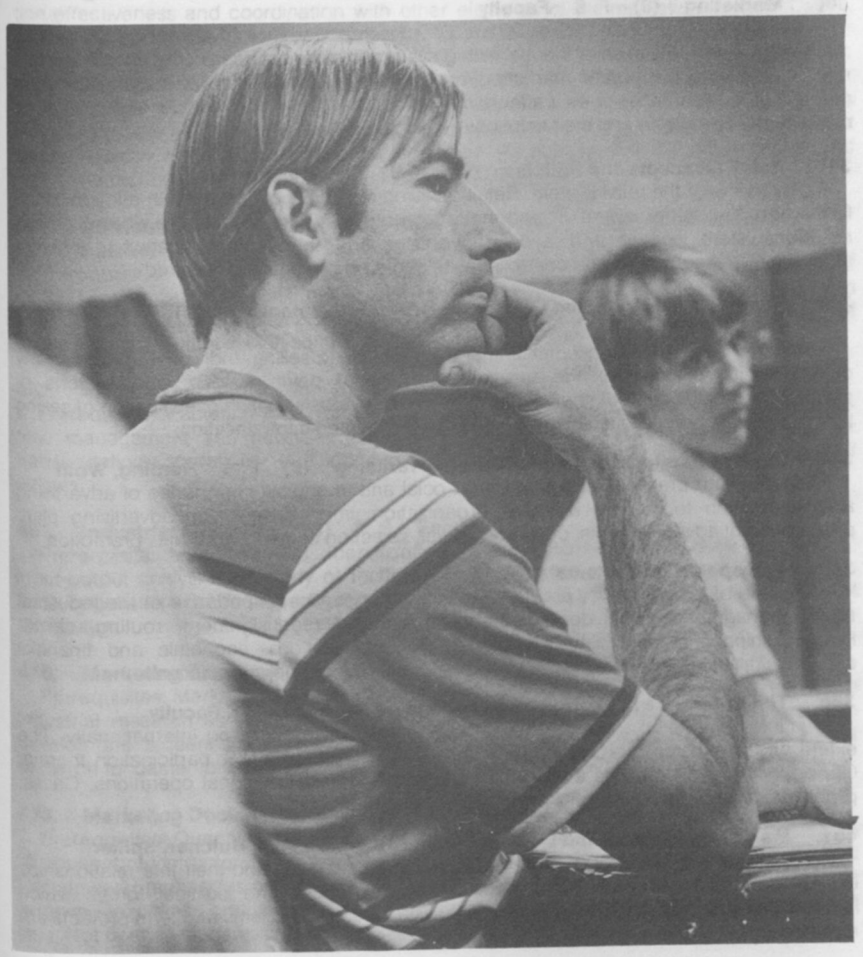
643. Seminar in Sociotechnical Systems (3)

645A,B. Seminar in Management Policy and Problems (3,3)

646A,B. Seminar in Organization Analysis (3,3)

647A,B. Seminar in Management Planning and Control Systems (3,3)

695. Special Topics in Management (3)



Marketing

Upper Division

300. Marketing (3) F, S Faculty
Prerequisite: Economics 200 or 201 or 300. Interdependence of elements in the firm's marketing system. Relation of the marketing system to other activities in the firm. The firm's role in domestic and world marketing environments. Economic and social effects on marketing, human behavior as it affects marketing, marketing communications, marketing management problems and their solutions.

310. Retail Concepts and Policies (3) F, S Ash, Butcher
An overview of the retail system. Retail decision making is emphasized in relation to the following areas: store operation and management; merchandise assortment and pricing decisions; store location and layout; advertising and sales communication; consumer analysis; retail accounting and control. Cases and term projects are required.

320. Interpersonal Marketing Communications: Salesmanship (3) F, S Ash, Ford, Faculty
Economic aspects of consumer demand as related to selling. Individual and company objectives in selling from the business and social point of view; contributions of psychology, sociology and other behavioral sciences to salesmanship; evaluation of selling techniques and practices including recruiting, training and compensation.

330. Mass Marketing Communications: Advertising (3) F, S Harding, Wolff
Principles and practices of advertising. Social and economic importance of advertising and its relation to modern business organization; importance of an advertising plan; preparation of advertisements, copy and layout, selection of media and sales promotion.

340. Transportation Systems (3) F, S Hall
Principles of freight traffic, problems of rates and service, importance of the industrial traffic manager, shipping documents, diversion and reconsignment, routing, carrier liability, shipper responsibility, transits, traffic organizations, economic and financial aspects of transportation facilities, services and patterns of public regulation.

380. The Enterprise in International Markets (3) F Spiller, Faculty
Principles of foreign trade as they affect an enterprise operating internationally. The extent and expansion of world markets, the flows of trade and U.S. participation therein. Opportunities and problems arising from participation in international operations. Cases, problems, term project and class presentation required.

401. Marketing Systems and Environment (3) F, S Ash, Butcher, Spiller
Prerequisite: Marketing 300. Study of marketing institutions and their interrelationships in the distribution process. Economic, behavioral, social and political forces which influence vertical marketing systems are discussed. Cases, problems and term projects are required.

403. Marketing Communication Theory (3) F, S Frye, Harding, Klein, Spiller
Prerequisite: Marketing 300. The business communications source; objectives, social and cultural environment. Encoding process in relation to the consumer. Decoding process and the consumer's frames of reference. Consumer attitude formation and change. Term projects with classroom presentations required.

404. Communication Theory—Nonverbal (3) S Klein
Role of nonverbal communication and behavior in the total marketing process. Relationship between verbal and nonverbal interaction. Definition and measurement of communication effectiveness.

408. Marketing Management (3) F, S Faculty
Prerequisites: Marketing 300; senior standing. Strategies and techniques in marketing management. Student is required to apply prior material from the marketing curriculum to problems and cases in a seminar setting. Emphasis is on decision making in such matters as distribution and product, pricing and promotional strategies. Problems, cases and term projects required.

430. Promotion Strategies (3) F, S Frye, Harding, Spiller, Wolff
Prerequisite: Marketing 300. Communication as a tool of promotional marketing management. Major strategic promotion problems faced by marketing management, including allocation of resources to communication alternatives, evaluation of communication effectiveness and coordination with other elements of the marketing system. Cases, problems, class presentations and term projects are required.

432. The Consumer: A Socio-Legal Approach (3) F George, Klein
Psychology of the consumer and growth of the consumer movement. Major issues including problems relating to advertising, sales practices, pricing, warranties and product safety. A study of consumer protection legislation. An examination of legal remedies and corporate responsiblity. Same course as Finance 432.

441. Curriculum Development in Distributive Education (3) On demand Butcher
Prerequisites: Economics 200, 201; Marketing 300. Curriculum construction and content organization of distributive education. Includes evaluation, preparation and selection of instructive materials, application of instructional techniques and analysis of distributive curriculum in high school, community college and adult programs.

442. Air Transportation (3) F, S Harding, Faculty
Prerequisite: Marketing 340. Commercial air systems of the U.S.; economic characteristics, management and public regulations; problems and services of commercial air transportation; operations, equipment, passenger and cargo services of airports and airlines.

465. Industrial Marketing (3) F, S Faculty
Prerequisite: Marketing 300. Identification of the influencers and decision makers, input-output analysis and study of the sources of industrial marketing data. Pricing and price negotiation. Product development and testing. Design and control of the channels of distribution.

470. Marketing Research (3) F, S Cotta, Frye, Holmes, Palubinskas, Spiller
Prerequisites: Marketing 300, Quantitative Systems 310. Fundamentals of marketing and industrial research as an approach to problem-solving in business. Cases are used to develop the student's analytical ability and demonstrate the application of business research fundamentals. Term projects.

473. Marketing Decision Making (3) F, S Frye, Holmes, Klein
Prerequisites: Quantitative Systems 310 and Marketing 300 (may be taken concurrently) or consent of instructor. Solving marketing problems through the application of analytical techniques. Emphasis is on fundamental understanding and applications. Techniques are reviewed, explained and applied to actual marketing data and to case situations. Problem sets. Not open to students with credit in Marketing 373.

480. International Marketing (3) F, S Palubinskas
Prerequisite: Marketing 300 or consent of instructor. Individual enterprise in varying cultural, economic and political environments; international market opportunities; types of foreign operations; international marketing management; financing; legal situation; comparison with domestic marketing. Problems, cases and term projects with classroom presentation are required.

490. Consumer Behavior (3) F, S Butcher, Klein, Stuteville
Prerequisite: Marketing 300 or consent of instructor. Nature of parameters of consumer behavior. Socio-psychological factors including personality, small group theory, demographic variables, social class and culture.

492. New Products/New Service (3) F, S Stuteville
Prerequisite: Marketing 300 or consent of instructor. An analysis of the process and strategy of new product or service innovation, research and introduction. The course will stress actual recent case histories from Los Angeles area firms. Students will conceive and propose new product introductions.

495. Selected Topics (1-3) F, S Faculty
Prerequisites: Consent of instructor and grade point of 3.0 in marketing. Topics of current interest in marketing selected for intensive study. May be repeated for a maximum of 6 units. Topics will be announced in the *Schedule of Classes*.

497. Directed Studies (1-3) F, S Faculty
Prerequisites: Consent of instructor and department chair, on Dean's List and a 3.0 GPA or higher in marketing. Individual projects, study and research of advanced nature in marketing.

Graduate Division

500. Marketing Concepts (3)

660. Seminar in Marketing Theory (3)

661. Seminar in Marketing Policies (3)

662. Seminar in Marketing Environment and Institutions (3)

663. Seminar in Advertising Policies (3)

664. Seminar in Transportation (3)

665. Seminar in Marketing Research (3)

666. Seminar in International Marketing (3)

667A. Seminar in International Business—Africa and the Near East (3)

667B. Seminar in International Business—Asia and Oceania (3)

667C. Seminar in International Business—Europe (3)

667D. Seminar in International Business—Latin America (3)

668. Seminar in Consumer Behavior (3)

669. Experimentation in Consumer Behavior (3)

Quantitative Systems

Administrative Systems

Lower Division

130. Current Concepts of American Business (3) F, S King, Nelson
Development of an understanding of contemporary business and related societal issues and the roles of producer and consumer in the American business enterprise system. Includes introduction to major business functions.

202. Introduction to Business Communication (3) F, S Gillis
Survey of written and oral communication media utilized in business; emphasis on developing skill in business informational writing.

Upper Division

302. Business Communication (3) F, S Gillis, Pickard
Prerequisite: Quantitative Systems 202 or consent of instructor. Theory and practice of behavioral communication involved in the administrative management process; emphasis on written communication involving interaction, persuasion and human relations.

331. Administrative Management (3) F, S Burras, Doud
Organization, function, layout and equipment of administrative departments; general introduction to computers and computer terminology as used in the administrative management process; improvement of efficiency in the administrative management process. Not open to students with credit in Office Management 431.

402. Business Reports (3) F, S Doud, Pickard
Formal business report writing involving problem solving and decision making in the administrative management process; the scientific method of inquiry as it relates to business report writing.

432. Administrative Information Systems (3) F, S Burras, Keester
Prerequisite: Quantitative Systems 240. Provides a review of modern data processing theory and technology. Areas covered are information processing concepts; data base concepts; systems analysis, evaluation, design and implementation; and administrative considerations of information systems and methodology.

433. Financial Aspects of Business Equipment (3) F, S Keester
Prerequisite: Quantitative Systems 331 or consent of instructor. Economic feasibility, procurement, financing and effective utilization of data originating, processing and communicating equipment used in the administrative management process.

495. Selected Topics (1-3) F, S Faculty
Prerequisite: Consent of instructor and GPA of 3.0 or higher in major. Topics of current interest in the field as announced in the *Schedule of Classes*. In the absence of significant duplication, may be repeated for a maximum of six units.

497. Directed Studies (1-3) F, S Faculty
Prerequisites: Consent of instructor and department chair, on Dean's List and a GPA of 3.0 or higher in administrative systems. Individual projects, research or study in administrative systems.

Graduate Division

520. Problems in Business Communication (3)

521. Advanced Administrative Management (3)

522. Issues and Trends in Administrative Management (3)

523. Survey of Research in Administrative Management (3)

620. Case Studies in Administrative Management (3)

697. Directed Studies (1-3)

Quantitative Methods

Lower Division

240. Business Data Processing (3) F, S Faculty
Basic data processing and computer programming fundamentals designed to provide an understanding of the function of computers in business and government operations.

242. COBOL Programming (3) F, S Gillis, Gilon
Introduction to COBOL programming with an emphasis on the application to business problems usually characterized by the need to process large files of data. General treatment of language elements, file management techniques and input/output considerations. Intended for students with no background in COBOL.

243. FORTRAN Applications in Business (3) F, S Faculty
Introduction to FORTRAN programming with an emphasis on the application to business data processing. This course will include the use of subroutines and mass storage devices such as tapes and disks. Intended for students with no background in FORTRAN.

Upper Division

310. Business Statistics (3) F, S Faculty
Prerequisite: Mathematics 114. Probability, measures of central tendency and dispersion, hypothesis testing and estimation, simple regression and correlation and applications of the probability distributions. Not open to students with credit in Quantitative Systems 210.

410. Probability and Decisions (3) F, S Chao, Gilon, Payne
Prerequisites: Mathematics 114, 115B or consent of instructor. Probability theory with emphasis on logical applications of probability models to business problems and decision making. Topics include elements of probability, distribution functions, random variables, probability distributions and their properties.

411. Statistical Decision Theory (3) F, S Chao, Stinson
Prerequisite: Quantitative Systems 410. Statistical tools for the analysis of data and for business decision making. Topics include sampling and sampling distributions, hypothesis testing and estimation.

413. Comparative Analysis of Computer Languages (3) F, S Gilon
Prerequisites: Quantitative Systems 240, 242, 243. Working elements of COBOL, FORTRAN, SNOBOL, APL, and PL/I with emphasis on data and file manipulation, and in-depth study of IM. Comparative analysis of these and other major languages.

442. Business Computer Methods (3) F, S Gilon, Payne
Prerequisite: Quantitative Systems 240 or consent of instructor. Data bank and file creation, maintenance and information retrieval using an existing information management language. Problem set-up for use of existing pre-programed packages for business and socio-economic model fitting, forecasting, linear programming and CPM/PERT.

445. Computer Application for Business Problems (3) F, S Gilon
Prerequisites: Quantitative Systems 240, 410 or consent of instructor. Extensive use of existing software in the solution of business and management decision problems. Areas covered are simple and multiple regression and simultaneous equation modeling. Analysis of variance and analysis of covariance are covered as they relate to the general linear hypothesis.

460. Operations Research: Deterministic Models (3) F, S Stinson, Wollmer
Prerequisites: Mathematics 114 and 116 or Mathematics 123, Quantitative Systems 410. Theory and applications of operations research as an aid to management decision making. Emphasis on the application of deterministic models such as network analysis, linear programming, dynamic programming, PERT/CPM and introduction to game theory.

463. Operations Research: Probabilistic Models (3) F, S Stinson, Wollmer
Prerequisite: Quantitative Systems 410. Continuation of Quantitative Systems 460 with extensions to probabilistic models such as inventory, queueing theory, Markov chains and simulation.

466. Computer Model Simulation (3) S Gilon, Payne
Prerequisites: Quantitative Systems 410 or consent of instructor, 442. Principles of computer simulations including system modeling, stochastic variate generation, design of simulation experiments, validation and analysis of simulation results, and mechanization of business simulation problems. Use of special purpose simulation languages such as SIMULA and GPSS, which are operational at CSULB, and overview of SIMSCRIPT.

495. Selected Topics (1-3) F, S Faculty
Prerequisite: Consent of instructor and GPA of 3.0 or higher in major. Topics of current interest in the field as announced in the *Schedule of Classes*. In the absence of significant duplication, may be repeated for a maximum of six units.

497. Directed Studies (1-3) F, S Faculty
Prerequisites: Consent of instructor and department chair, on Dean's List and a GPA of 3.0 or higher in quantitative methods. Individual projects, research or study in quantitative methods.

Graduate Division

500. Probability and Statistical Decision Theory (3)

570. Economic Theory of Decision (3)

571. Theory of Information (3)

572. Stochastic Processes (3)

573. Advanced Statistical Inference (3)

574. Topics in Multivariate Analysis (3)

575. Experimental Design (3)

670. Seminar in Operations Research and Statistics (3)

697. Directed Studies (1-3)

Business Administration

Thesis and Research

Graduate Division

500. Research Methodology (3)

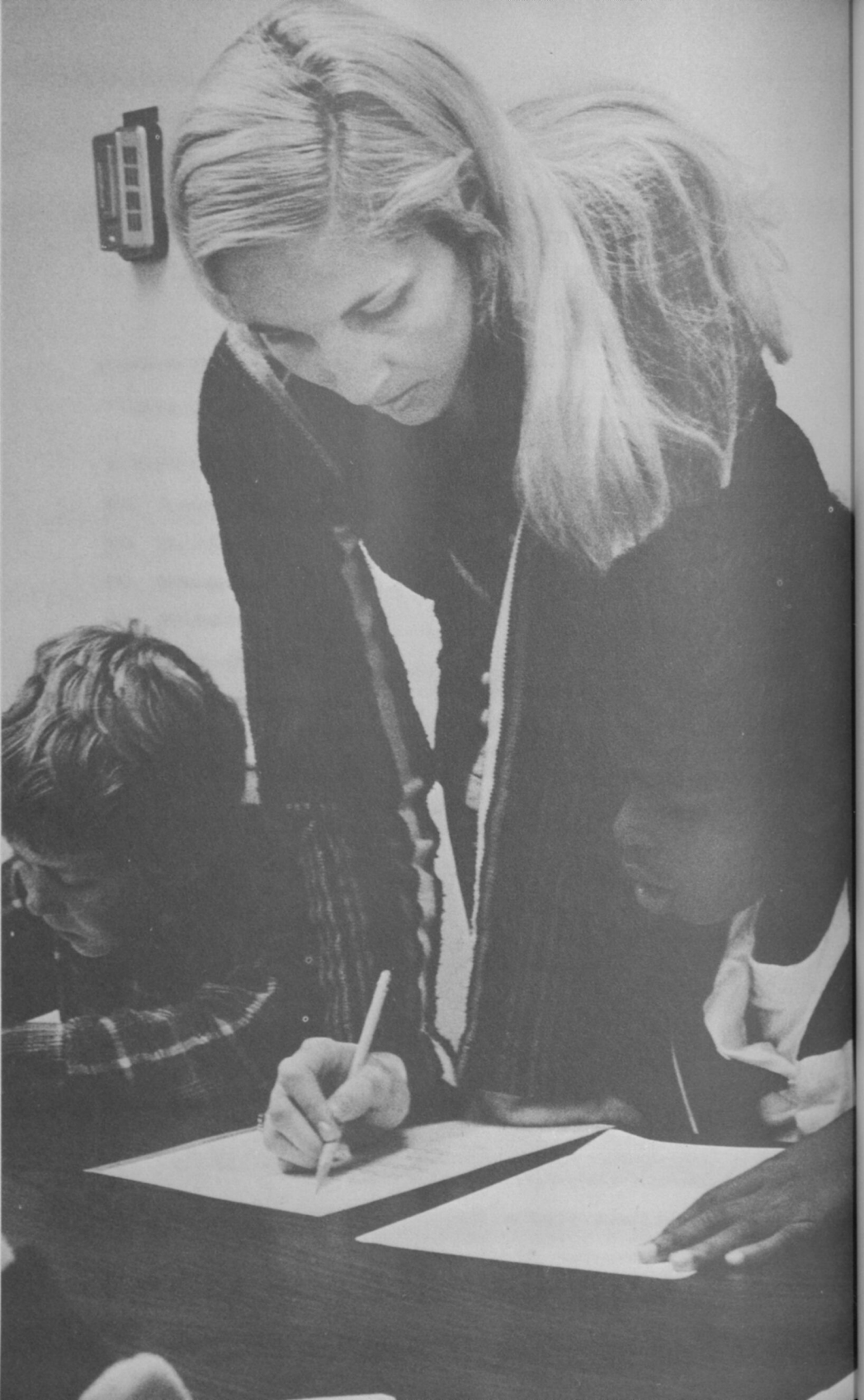
690. Applied Research (3)

695. Selected Topics (3)

697. Directed Studies (1-3)

698. Thesis (2-4)

699. Integrated Analysis (3)



School of Education

Administrative Officers

Dr. John A. Nelson, Jr.	Dean of the School	ED1-4
Dr. Joan J. Michael	Associate Dean, Graduate Studies and Research	ED1-6
Dr. Richard J. Johnson	Associate Dean Professional Programs	ED1-6
Mr. John A. McAnlis	Director of Support Services and Planning	ED1-9

Directory of Departments

Department	*Chair*	*Dept. Offices*
Educational Administration	Dr. Neil V. Sullivan	ED1-10
Educational Psychology and Social Foundations	Dr. Ralph C. Graetz	ED1-10
Elementary Education	Dr. Charles L. Myers	ED1-13
Instructional Media	Dr. Richard J. Johnson	LA1-209
Secondary Education	Dr. Harold V. Graham	ED1-8

Other School Offices

Bilingual/Cross Cultural Education	Dr. Francisco Hidalgo	ED1-33
Credentials Office	Ms. Catherine Whitcomb	ED1-5
Credential Processing Center	Ms. Judy Albert	ED1-31
Early Childhood Education	Dr. Clare Rodney	ED2-256
Educational Placement Center	Ms. Norie Zahn	ED1-49
Educational Psychology Clinic	Dr. Elaine Haglund	ED2-155
Elementary Education Field Experiences	Dr. Albert H. Koppenhaver	ED1-13
Graduate Office	Ms. Sharon McClintock	ED1-7
Library Education	Ms. Barbara A. Ward	LA1-209
Pupil Personnel	Dr. Vicente Noble	ED1-55
Reading Specialist	Dr. Helen Newcastle	ED1-65
Secondary Education University Coordinator	Ms. Jean Conroy	ED1-51
Special Education	Dr. Charles Kokaska	ED2-192

School of Education

The School of Education provides undergraduate and graduate studies in the field of education. It offers specific curricula focusing on the preparation of personnel for teaching and educational service in the elementary, junior and senior high schools, community colleges, adult programs and other educational agencies of the state.

Descriptions of credential and graduate degree programs appear in the University *Graduate Bulletin,* the *School of Education Graduate Handbook* and the *Credential Advisement Handbook.*

Professional Programs in Education

Multiple Subjects Credential Program (for elementary teachers)

Single Subjects Credential Program (for secondary teachers)

Bilingual/Cross Cultural Specialist Credential

Early Childhood Specialist Credential

Reading Specialist Credential

Special Education Specialist Credential (Learning Handicapped, Severely Handicapped, Gifted) (Communication Handicapped offered through the Communicative Disorders Department)

Clinical Rehabilitative Services Credential (Language, Speech and Hearing, and Audiology offered through the Communicative Disorders Department)

Administrative Services Credential

Library Services Credential

Pupil Personnel Services Credential

Designated Subjects Credential

Instructional Media Certificate Program

Career Guidance Certificate Program

Specific program information for all credentials is available through departmental offices or the School of Education Credentials Office.

Master of Arts Degree in Education

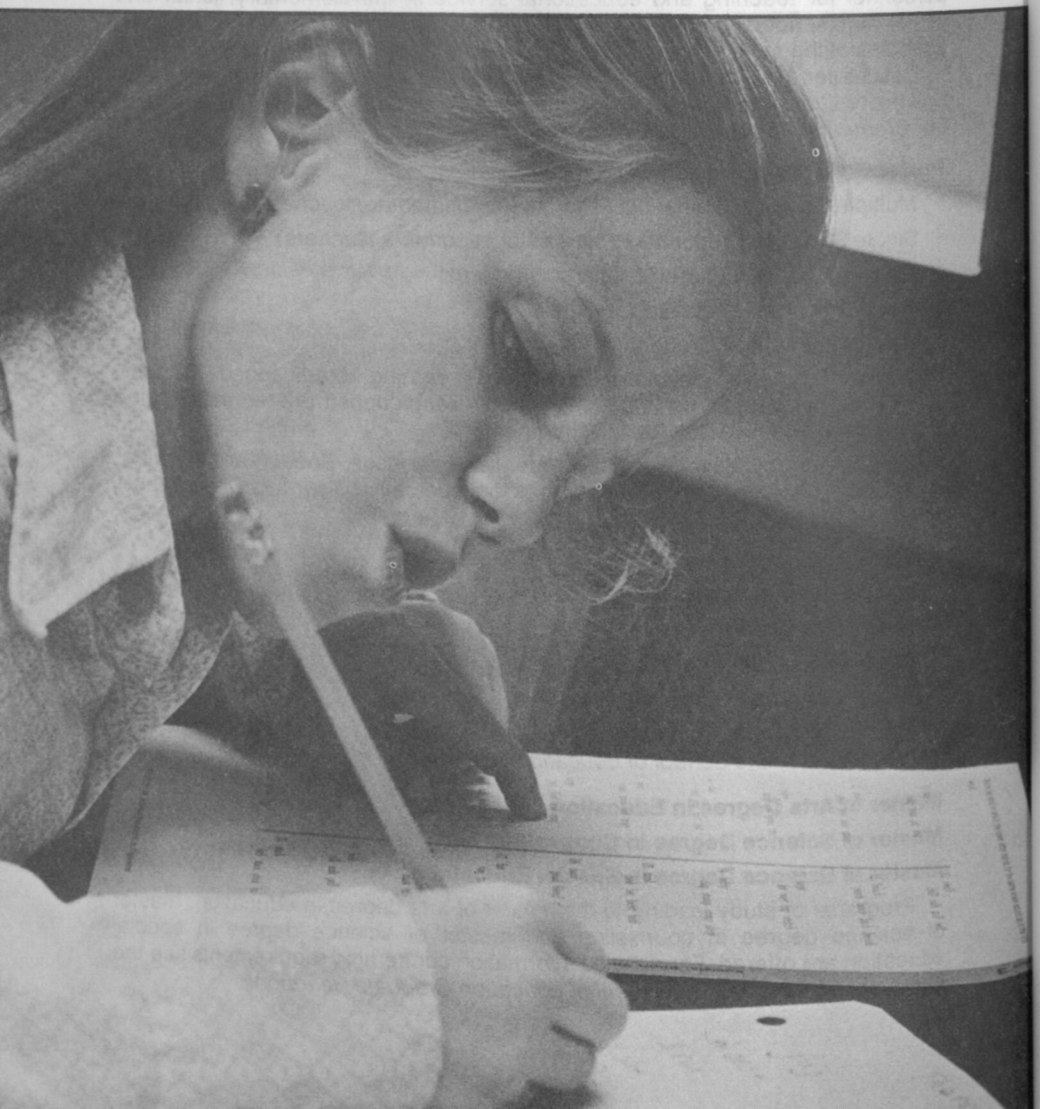
Master of Science Degree in Counseling

Master of Science Degree in Special Education

Programs of study leading to the master of arts degree in education, master of science degree in counseling and master of science degree in special education are offered. For detailed information concerning requirements see the *Graduate Bulletin* and the *School of Education Graduate Handbook.*

Scholarships

Two scholarships are available through the Department of Educational Psychology and Social Foundations and one is available for students in the Department of Educational Administration. The William H. McCreary Scholarship for graduate students in pupil personnel is awarded annually by the California Personnel and Guidance Association to honor the former chief of the Bureau of Pupil Personnel Services who retired from the California State Department of Education in 1972. The Clyde S. Johnson Scholarship is awarded annually to graduate students in student personnel services. The Wayne W. Young Memorial Thesis Award is presented annually to a graduate completing an outstanding thesis for a master's degree in educational administration. Don D. Beiderman Memorial Scholarships are awarded annually through the Elementary Education Department to students preparing to teach in elementary schools in a multi-cultural setting. The amount of the awards and the number of recipients is determined annually by faculty committees. Further information may be obtained from the department offices.



Educational Administration

Department Chair: Dr. Neil V. Sullivan.

Emeriti: J. Wesley Bratton, Henry R. Sehmann, Willard H. Van Dyke.

Professors: Jackman, Nelson, Sullivan, Williams.

Assistant Professor: Graham.

Academic Advising Coordinators: Dr. Neil V. Sullivan, Dr. John Graham.

The Department of Educational Administration offers courses to meet the requirements of the Administrative Services Credential authorizing the holder to serve as a superintendent, associate superintendent, deputy superintendent, principal, assistant principal, supervisor, consultant and/or coordinator at the elementary and secondary levels. It also offers courses to qualify for administrative positions at the community college and in adult education programs.

Educational Administration Advisory Council

The advisory council for the approved program in educational administration is composed of school board members, interested citizens, teachers, students, community leaders, supervisors and administrators from all levels in the geographic areas served by the University. These persons confer with and assist the department faculty in examining the educational needs of the community and in recommending changes in existing programs that will enable the University to meet these needs.

Dr. Donald Ashley, Director of Personnel, Long Beach Unified School District

Mr. William Barnes, Director of Community Affairs, Long Beach City College

Mrs. Mary Coe, Principal, Ocean View School District

Mr. Richard Flores, Director of Certificated Personnel and Staff, Adult Education, Santa Ana Unified School District

Dr. Rex Fortune, Program Manager, Adult Education, State Dept. of Education

Mr. Robert B. Hunt, Principal, Fullerton School District

Mr. Leon Jordan, Principal, Los Angeles Unified School District

Ms. R. A. McGee, Public Information Director, Paramount Unified School District

Mrs. Mary Mend, Principal, Eastmont Intermediate School

Mr. Peter L. Parra, Coordinator of Personnel, Montebello Unified School District

Mr. Harland L. Polsky, Principal, Compton Unified School District

Mr. William A. Thompson, Assistant Superintendent, Anaheim City School District

Mrs. Elizabeth W. Wallace, Board Member, Long Beach Unified School District

Mr. Hayward Williams, Director of Community Relations, Long Beach Unified School District

Graduate Division

541. Principles and Leadership in School Administration (3)

544. Legal and Financial Aspects of Schools (3)

580. Introduction to Field Experience in Administration (3)

590. Special Topics in Educational Administration (1-3)

647. Seminar in School Personnel Administration and Leadership Behavior (3)

648. Seminar in Systems Approach and Educational Management (3)

649. Seminar in Urban Educational Administration (3)

651. Seminar in Administration and Supervision of Elementary Schools (3)

661. Seminar in Administration and Supervision of Secondary Schools (3)

680. Advanced Field Experience in Administration (3-6)

683. Field Work in Administration and Supervision of the Community College (3-6)

697. Directed Research (1-3)

698. Thesis (1-6)

Educational Psychology

Department Chair: Dr. Ralph C. Graetz.

Emeriti: Evelyn L. Blackman, Aileen Poole Koehler, Charles H. Tilden.

Professors: Blaylock, Britton, Crossan, B. Davis, Demos, Fogg, Forst, Glasser, Graetz, Hamel, Hunter, Kokaska, Lazar, Michael, Orpet, Owen, R. Peck, Revie, Shaver, Swan, Yee.

Associate Professors: Cash, Denham, Gibbs, Haglund, Harris, Kampwirth, Noble, Schmidt.

Assistant Professor: Maslow.

Academic Advising Coordinator: Dr. Ralph C. Graetz.

The Department of Educational Psychology and Social Foundations provides instruction in the history and philosophy of education, educational sociology and educational psychology including pupil personnel services and special education. Emphases in social foundations and educational psychology are provided within the master of arts degree in education. The department offers courses to meet the requirements of the California Credential in Pupil Personnel Services (school counseling, school psychometry and psychology) and a master of science in counseling degree. It also offers courses to meet the requirements of the Special Education Specialist Credentials: Learning Handicapped and Severely Handicapped, as well as a master of science degree in special education.

Lower Division

190. Current Topics in Education (1-6) F, S Faculty

Orientation to and exploration of topics relevant to the college student as a learner-scholar and decision-maker within the changing campus, community and societal milieu. Lectures, discussion, field study. May be repeated in combination of Educational Psychology 190-390 for a maximum of six units. Topics will be announced in the *Schedule of Classes*. Not open to students with credit in Education 190.

191. Career and Personal Explorations (3) F, S Faculty

A course designed for, but not restricted to, entering and undeclared students. Includes training in life problem-solving and self-management skills; an intensive exploration of one's own values, interests and abilities; an intensive career information search; and optional modules. Instruction by self-paced materials, lecture, small group discussion, interviews and inputs from various campus departments. Not open to students with credit in Educational Psychology 190.

199. Orientation to Change in Education (3) F, S Faculty
Emphasis on process-change, communication and reality orientation in school and society. Experiments in learning, the reals and ideals of teaching as a profession, field trips and simulated teaching experiences. Not open to students with credit in Educational Foundations 199. (Lecture 2 hours, arranged field experiences 5 hours.)

Upper Division

301. Child Development and Learning (3) F, S Faculty
Physical, mental, emotional and social growth and development of the child with emphasis on the learning process.

302. Adolescent Development and Learning (3) F, S Faculty
Prerequisite: General psychology. Physical, social, emotional and mental development during adolescence; learning processes.

305. Educational Psychology (3) F, S Faculty
Prerequisite: Ed. Psych. 301 or 302. Modifiability and educability of the human organism at different levels of maturity; psychology of learning applied to teaching.

311. Mental Hygiene (3) F, S Faculty
Psychological factors important for the development of mental health; implications for teaching, group work and interpersonal relationships in home and school; behavior disorders and educational practice.

350. Survey of Education of Exceptional Individuals (3) F, S Britton, Kokaska
Prerequisite: Admission to the Special Education Specialist Credential Program or consent of instructor. Survey of the education of exceptional individuals offering the opportunity for the study of, and exposure to, all exceptional individuals, including the communication handicapped, physically handicapped, learning handicapped, severely handicapped and the gifted. Field work.

360. Practicum in Exceptionality (3) F, S Britton, Kokaska, Lazar
Prerequisite: Admission to the Special Education Specialist Credential Program or consent of instructor. Initial field experiences three mornings a week or equivalent with all types of handicapped individuals in public and private community schools and facilities. Application for permission to enroll shall be made by October 1 for the spring semester and March 1 for the fall semester. Not open to students with credit in Educational Psychology 360A or 360B.

390. Current Topics in Education (1-6) F, S Faculty
Orientation to and exploration of topics relevant to the college student as a learner-scholar and decision-maker within the changing campus, community and societal milieu. Lectures, discussion, field study. May be repeated in combination of Educational Psychology 190-390 for a maximum of six units. Topics will be announced in the *Schedule of Classes*. Not open to students with credit in Education 390.

391. Career and Personal Explorations (3) F, S Faculty
Designed for, but not restricted to, transfer students and students who have not selected a major. Includes training in life problem-solving and self-management skills; an intensive exploration of one's own values, interests and abilities; an intensive career information search; and optional modules. Instruction by self-paced materials, lecture, small group discussion, interviews and inputs from various campus departments. Not open to students with credit in Educational Psychology 190, 191 or 390.

399. Orientation to Change in Education (3) F, S Faculty
Emphasis on process-change, communication and reality orientation in school and society. Experiments in learning, the reals and ideals of teaching as a profession, field trips and simulated teaching experiences. Not open to students with credit in Educational Foundations 399.

405. Behavior Modification in the Classroom (3) F, S Harris, Kampwirth
Prerequisites: Ed. Psych. 305 or a course in basic learning theory, consent of instructor. Application of the principles of social learning and operant conditioning in the classroom. Includes training in observation in a school setting, collection of observational data, building and implementation of intervention programs.

419. Educational Statistics (3) F, S Faculty
Prerequisite: Elementary algebra. Introduction to statistical methods with application to educational research problems. Not open to students with credit in Educational Psychology 319 or Educational Research 319.

420. Tests, Measurements and Evaluations (3) F, S Faculty
Prerequisite: Ed. Psych. 419. Determination, meaning and use of fundamental statistical concepts applied to problems of measurement and evaluation; construction, interpretation and use of standardized and teacher-made tests. Not open to students with credit in Educational Psychology 320 or Educational Research 320.

430. Principles of Counseling and Guidance (3) F, S Faculty
Prerequisite: Ed. Psych. 305. Purposes, functions, legal aspects and administration of the pupil personnel program.

434. Interpersonal Skills in Human Resource Development (4) F, S Cash
Designed to develop interpersonal skills identified as necessary to have effective human relations and staff resources development. It includes a presentation of theory and research applicable to processes in interpersonal functioning and human relations. The Carkhuff Human Technology Model provides both didactic and experiential learning approaches.

451. Learning Disabilities in Exceptional Individuals (3) F, S Lazar, Sundstrom
Prerequisite: Advancement to Learning Handicapped Area in the Special Education Specialist Credential Program or consent of instructor. Assessment of learning disabilities in learning handicapped students as related to etiology and diagnosis. Identification of current issues and trends and the utilization of research findings in program implementation. Review of theoretical instructional systems used to design programs for the learning handicapped. Field work.

455. Teaching Gifted Individuals (3) F Lazar
Prerequisite: Advancement to the Gifted Area in the Special Education Specialist Credential Program or consent of instructor. Assessment of learning characteristics of gifted individuals related to identification and diagnosis. Identification of current issues and trends and the utilization of research findings in program implementation. Review of theoretical instructional systems used to design programs for the gifted. Field work. Not open to students with credit in Educational Psychology 355.

456. Implications for Education of the Gifted and Creative (3) F, S Lazar
Prerequisite: Advancement to the gifted area in the Special Education Specialist Credential Program or consent of instructor. Methods of teaching the gifted and creative including the utilization of systematic observation, academic assessment and prescriptive procedures. Identification of specific implication of giftedness and creativity in relation to learning and maturational growth sequences, including career preparation, in special instruction. Techniques for counseling gifted and creative students and their parents will be explored. Field work.

461. Developmental Disabilities (3) F, S Britton, Kokaska
Prerequisite: Advancement to the Severely Handicapped Area in the Special Education Specialist Credential Program or consent of instructor. Assessment of learning and developmental disabilities in severely handicapped students as related to etiology and diagnosis. Identification of current issues and trends and the utilization of research findings in program implementation. Review of theoretical instructional systems used to design programs for the severely handicapped. Field work.

463. Teaching Severely Handicapped Individuals (3) F, S Britton, Schmidt
Prerequisite: Advancement to the Severely Handicapped Area in the Special Education Specialist Credential Program or consent of instructor. Methods of teaching the severely handicapped including the utilization of systematic observation, academic assessment and prescriptive procedures. Identification of specific implication of handicapped conditions in relation to learning and maturational growth sequences, including career preparation, in the special instructional program. Techniques for counseling severely handicapped students and their parents will be explored. Field work.

464. Teaching Exceptional Individuals (3) F, S Lazar, Schmidt
Prerequisites: Admission to the Special Education Specialist Credential Program, Ed. Psych. 350, Ed. Psych. 360, or consent of instructor. Study and experience concerning the principles of learning, development and curriculum for exceptional students with emphasis upon formal and informal instruments for testing and assessment of student behavior. Preparation of instructional objectives, task analysis, techniques in planning class management and developing alternate learning strategies will be included. Field work.

465. Teaching Learning Handicapped Individuals (3) F, S Schmidt
Prerequisite: Advancement to Learning Handicapped Area in the Special Education Specialist Credential Program or consent of instructor. Methods of teaching the learning handicapped including the utilization of systematic observation, academic assessment and prescriptive procedures. Identification of specific implication of handicapped conditions in relation to learning and maturational growth sequences, including career preparation, in the special instructional program. Techniques for counseling learning handicapped students and their parents will be explored.

469. Workshop in Exceptionality (1-6) SS and on demand Faculty
Prerequisite: Experience with disabled or exceptional individuals or consent of instructor. The workshop is designed to enable the student to explore and experience new, innovative and creative approaches to the delivery of service to disabled or exceptional individuals. Individual field work is required.

470. History and Philosophy of Education (3) F, S Faculty
Historical and philosophical foundations of education, from ancient times to the present. Not open to students with credit in Educational Foundations 470.

480. School and Society (3) F, S Faculty
Relationships between the school and community; economic and social backgrounds of school populations; current social trends and issues as they effect education; democratic ideology and the school; education as a social function. Not open to students with credit in Educational Foundations 480.

485. Education of Culturally Different Child (3) F, S Faculty
Prerequisite: Ed. Psych. 480. Problems of cultural and educational deprivation; implications for teaching. Not open to students with credit in Educational Foundations 485.

486A-D. Advanced Field Study with Exceptional Individuals (5,5) F, S Schmidt
Prerequisites: Advancement to a specific area in the Special Education Specialist Credential and demonstration of specified competencies. Application for this course should be made by October 1 for the spring semester and by March 1 for the fall semester. Students will be assigned to field sites five days a week for the equivalent of one semester under the supervision of a field-site specialist. Advanced field study including student teaching in a public or private school or facility serving handicapped or exceptional students. Application of specialist training competencies demonstrated in prior or concomitant specialist credential courses. In addition, opportunities will be provided for the student to demonstrate competencies in (1) the analysis and evaluation of all program elements; (2) the application of appropriate intervention to extend interaction among exceptional or handicapped pupils, their peers and adults; (3) planning and conducting parent meetings; (4) utilization of ethical practices in communication to others about exceptional or handicapped pupils; and (5) the initiation and pursuit of a program of self assessments and professional improvement.

486A. Advanced Field Studies with Communication Handicapped (5,5)

486B. Advanced Field Studies with Learning Handicapped (5,5)

486C. Advanced Field Studies with Severely Handicapped (5,5)

486D. Advanced Field Studies with the Gifted (5,5)

490. Special Topics in Educational Psychology (1-6) On demand Faculty
Prerequisite: Consent of instructor. Topics of current interest in educational psychology selected for intensive study. May be repeated under different topics for a maximum of six units. Topics will be announced in the *Schedule of Classes.*

497. Independent Study (1-3) F, S Faculty
Prerequisite: Consent of instructor and department chair. Independent study undertaken under the supervision of a faculty member.

Graduate Division

500. Educational Research (3)

519. Advanced Educational Statistics (3)

520. Educational Measurement and Research (3)

525. Individual Pupil Diagnosis (3)

526. Educational Diagnosis (3)

527. Clinical Practice in Child Diagnosis (3)

530. Career Development and Decision Theory (3)

531. Career Education Information Resources and Technology (3)

532. Group Counseling (3)

533. Counseling Theory (3)

535. Counseling and Guidance for the Handicapped (3)

536. Guidance Practices in the Schools (3)

537. Career Guidance Practices in the Schools (3)

538. Student Personnel Work in Higher Education (3)

539. Counseling the College Student (3)

541. General Case Practice and Field Work (3)

545. Pupil Personnel Practicum (3)

546A-B. Practicum in Special Education (3,3)

548. The College Student and College Environment (3)

549. Management of Student Personnel Services (3)

550. Cultural Perspectives of Special Education (3)

554A,B. Principles of Educational Remediation (3,3)

555. Education and Counseling in a Cross-Cultural Setting (3)

560. Management of Emotionally Handicapped Child (3)

566. Career Planning for the Exceptional Individual (3)

575. Philosophy of Education (3)

582. Comparative Education (3)

585. Group Processes in Education (3)

590. Special Problems in Educational Psychology (1-3)

604. Seminar in Human Development (3)

605. Seminar in School Learning (3)

615. Seminar in Home-School-Community Relations (3)

631. Seminar in Elementary School Counseling (3)

632. Seminar in Secondary School Counseling (3)

639. Seminar in Organization of Pupil Personnel Services (3)

642A. Field Work-School Psychology (1-6)

642B. Field Work-Counseling (1,2)

650. Seminar in Special Education (3)

677. Seminar in Curriculum Development (3)

680. Seminar in Current Problems and Issues in Education (3)

696. Thesis Study: Methodology, Organizational and Research Aspects (3)

697. Directed Research (1-3)

698. Thesis (1-6)

Elementary Education

Department Chair: Dr. Charles L. Myers.

Emeriti: R. Burdette Burk, Juliana T. Gensley, Marion R. Johnston, Oliver P. Johnstone, Leo T. Phearman, Arlene A. Roster, Olive L. Thompson.

Professors: Bernstein-Tarrow, Cahn, Jamgochian, Jones, Koppenhaver, Myers, Nagle, Perry, Rodney, Rolfe, Tabor, Woodfin.

Associate Professors: Ames, Beck, Gold, Krause, Newcastle, Olguin.

Assistant Professor: Chan.

Lecturer: Smith.

Academic Advising Coordinator: Dr. Charles L. Myers.

The Department of Elementary Education provides course work for: (a) elementary school credential candidates, (b) candidates pursuing the M.A. in education with a concentration in elementary education, (c) individuals seeking the Reading Specialist Credential, (d) candidates for Early Childhood Specialist Credential, and (e) Bilingual/Cross-Cultural Credential Program.

Upper Division

310. The Elementary School in American Society (3) On demand Faculty
Role of the school in American society and its historical, philosophical and sociological development. Includes the role of the teacher, the learning process, problems, issues and curricula.

361. Foundations in Mathematics: Emphasis in Geometry (2) F, S Perry
Prerequisite: Mathematics 110 or graduate standing. Geometric configurations, interpretation of their relationships and applications. Includes geometrical construction, use of instruments and simple applications of logic in geometry. Not open to students with credit in El. Ed. 461.

362. Unifying Concepts in the Mathematics of Number (2) F, S Perry
Prerequisite: Mathematics 110 or graduate standing. Unification and integration of mathematical ideas and procedures. Includes the development of sets, number and number systems, mathematical conditions and mathematical relations. Not open to students with credit in El. Ed. 462.

420. Teaching Strategies for Young Children (3) F, S Bernstein-Tarrow, Rodney
Strategies for providing learning environments conducive to creative expression, problem solving and developmental activities appropriate for children five to eight years of age in public school settings. Analysis of books, materials and equipment suitable for young children. Field work.

421. History and Philosophy of Early Childhood Education (3) F, S Bernstein-Tarrow, Gold, Rodney
Historical, philosophical and psychological foundations of early childhood education as related to current trends. Analysis of programs with reference to curriculum, roles of teacher and children and provision for multi-cultural background of learners. Field work.

422. Curriculum for Young Children (3) F, S Bernstein-Tarrow, Gold, Rodney
Curriculum and teaching-learning processes for children from infancy to age five in a variety of early childhood settings. Establishment of optimal environments, selection and creation of materials, observation and field work with young children. Not open to students with credit in Elementary Education 322.

423. Supervision of Preschool Programs (3) F, S Bernstein-Tarrow, Rodney
Supervision of early childhood programs and personnel in such settings as child development centers, nursery schools, Headstart and infant programs. Explore duties and qualifications of staff, financial procedures, maintenance, equipment, individual records, health and nutrition.

424. Assessment of Competency in Early Childhood Education (3) F, S Bernstein-Tarrow, Rodney
Prerequisite: Admission into Early Childhood Specialist Credential Program. Specialized course required for candidates in the Early Childhood Specialist Credential Program. Individualized program for each candidate based on assessment of performance of knowledge and application of the competencies encompassed in the Early Childhood Specialist Credential Program.

430. Teaching in Cross-Cultural Settings (3) F, S Rodney
Planning learning environments and teaching strategies for children of varied socio-cultural backgrounds with emphasis on problem solving, self concept and language development. Evaluation of multicultural materials. Field work. (Lecture-discussion 3 hours.)

440. Language Arts in the Elementary School (3) F, S Faculty
Prerequisite: Admission to elementary teacher education. Objectives, trends, teaching procedures and evaluation related to oral and written expression. Includes handwriting, spelling, listening, creative writing, linguistics, usage and vocabulary.

450. Reading in the Elementary School (3) F, S Faculty
Prerequisite: Admission to elementary teacher education. Objectives, principles, materials and teaching procedures of modern developmental reading programs. Includes word recognition, phonics and structural analysis, comprehension and interpretation, locational skills, personal reading, evaluation and the use of adopted texts.

451. Measurement and Evaluation in Reading (3) F, S Koppenhaver
Prerequisites: Ed. Psych. 419 and El. Ed. 450 or Sec. Ed. 459. Practical, instruction-directed analysis, interpretation of existing measures and instruments in reading; effects of cross-cultural differences on test performance; formal, informal, individual and group diagnostic procedures will be stressed. Methods of appraising reading needs of a total class are emphasized.

458. Newspaper in Education (1-3) SS and on demand Faculty
Use of the daily newspaper as an instructional tool in the classroom. Newspaper articles, features and editorials as a means of providing current content and bases for improvement of reading skills, interests, critical thinking and problem-solving. Understanding mass media. Not open to students with credit in Education 490 (where topic was Newspaper in the Classroom).

460. Mathematics in the Elementary School (3) F, S Faculty
Prerequisite: Mathematics 110 or equivalent. Admission to elementary teacher education. Concepts and principles of modern school mathematics. Includes methods and media that contribute to its meaning and understanding.

470. Social Studies in the Elementary School (3) F, S Faculty
Prerequisite: Admission to elementary teacher education. Objectives, content, scope, sequence, materials and teaching procedures in the social studies. Includes analysis of the trends, research and evaluative devices utilized in the social studies.

480. Observation and Participation in the Elementary School (2) F, S Faculty
Observation and participation in an elementary classroom for one full morning each week in a selected public school, with two assignments of seven weeks in two different grade levels and a weekly seminar with a college adviser.

481. Student Teaching in the Elementary Grades (2-12) F, S Faculty
Prerequisites: El. Ed. 440, 450, 460, 470 and official admission by the Teacher Education Committee. All day for one semester or five mornings per week for two semesters in a public school elementary classroom, with assignments in two grade levels and a weekly seminar with a college adviser. Enrollment is by application only.

490. Special Topics in Elementary Education (1-3) On demand Faculty
Topics of current interest in elementary education selected for intensive study. May be repeated under different topics but only six units may be applied toward advanced degrees. Topics will be announced in the *Schedule of Classes*.

497. Independent Study (1-3) F, S Faculty
Prerequisites: Consent of instructor and department chair. Independent study undertaken under the supervision of a faculty member.

Graduate Division

520. Individualized Learning Experiences for Early Childhood (3)

522. Parent Education and Involvement in Educational Environments (3)

523. Supervision of Early Childhood Programs (3)

540. Problems in Teaching the Language Arts in the Elementary School (3)

550. Problems of Teaching Reading (3)

551. Diagnosis and Correction of Reading Disabilities (3)

553. Personalized Reading Instruction (3)

554A. Competency in Teaching Reading (2)

554B. Competency in Teaching Reading (1)

556. The Reading Process (3)

558. Linguistics for Reading Teachers (3)

560. Problems of Teaching Elementary Mathematics (3)

570. Problems of Teaching the Social Studies in the Elementary School (3)

590. Special Problems in Elementary Education (1-3)

621. Seminar in Early Childhood Education (3)

653A,B. Seminar and Clinical Laboratory in Reading Disabilities (3,3)

655. Seminar in Reading Curriculum and Supervision (3)

660. Advanced Field Work in Reading (3)

681. Advanced Field Experiences in Early Childhood (4)

695. Seminar in Elementary Education (3)

697. Directed Research (1-3)

698. Thesis (1-6)

Instructional Media

Department Chair: Dr. Richard J. Johnson.

Professors: Brent, Cockrum, Gramlich, Johnson, Timmons, Vaughan.

Associate Professors: McLaughlin, Ward.

Academic Advising Coordinators: Dr. Richard J. Johnson, Dr. James S. Vaughan.

The Department of Instructional Media offers courses meeting the requirements for the M.A. in education with an emphasis in instructional media, the Library Services Credential for the State of California and a specialist certificate program in instructional and library media.

Instructional Media Advisory Council

The Advisory Council is composed of professional people whose position indicates an involvement with media as a means of instruction in public schools, business and industry. The purpose of this group is to examine and recommend changes in the existing program and assist the department in future planning.

Abbas Bolourch, Vice President, Instructional Media Department Association

Nancy Carter, Personnel Development Assistant, General Telephone Co.

Sheryl Grabow, President, Instructional Media Department Association

Jill Henricks, Coordinator of Instructional Media, Ocean View School District

Richard J. Johnson, Chairman, Instructional Media Dept., California State University, Long Beach

John Nelson, Dean, School of Education, California State University, Long Beach

C.L. Nunnelly, Manager, Engineering Training, McDonnell Douglas Aircraft Co.

Bonnie O'Brian, Secretary, Instructional Media Department Association

Aldo S. Romiti, Administrative Assistant, Chief of Staff, Veterans Administration Hospital

Jonda Rourke, Training Coordinator, Buffums' Department Store

Robert Sulski, Treasurer, Instructional Media Department Association

Rosemary Taylor, Audio Visual Librarian, Redondo Beach Public Library

Certificate Program in Instructional Media

The Certificate Program in Instructional Media is interdisciplinary and is open to students in any field where communication and/or library media skills are important. The program is open to undergraduate or graduate students.

Admission to the program is through application to the Department of Instructional Media.

Requirements for the Certificate in Instructional Media

1. A bachelor's degree with an approved major. (Certificate may be completed prior to the completion of the B.A. requirements or while in the process of working toward an advanced degree.)
2. 21 to 24 units selected from the three disciplines listed below and completion of one of the four programs listed, chosen in consultation with an adviser and determined by class level and student objectives.

Instructional Media 300, 301, 410, 411, 440, 490, 497, 500, 501, 510, 511, 512, 513, 520, 540, 590, 630, 697.

Library Education 411, 412, 420, 491, 510, 540, 550, 581.

Speech Communication 332, 333, 352, 358, 434, 445, 448, 449, 451.

(1) Industrial Employee Development Personnel and Public School Administrators

(2) Instructional Materials Resource Center Personnel: Audio Visual or Library

(3) General Media Specialist

(4) Library Specialist

Upper Division

300. Instructional Media (3) F, S Faculty
Resource materials and technological advancements related to instructional theory and practice. Laboratory experience includes preparation of instructional media and equipment operation. (Lecture 2 hours, laboratory 2 hours.)

301. Curricular Integration of Instructional Media (2) F Gramlich
Prerequisite: I.M. 300 or consent of instructor. Experimental approaches to the use of media involving multi-screen presentation, programmed learning, telemation, cooperative teaching and student response systems.

410. Preparation of Graphic Media (2) F, S Brent
Prerequisite: I.M. 300 or consent of instructor. Advanced problems in visualization including the preparation of transparency materials, charts and graphs, and use of mechanical lettering devices, layout and design.

411. Programmed Instruction (2) F, S Timmons
Prerequisite: I.M. 300 or consent of instructor. Primitive, modern and experimental formats. Integration of programmed learning with modern system approaches to instruction.

440. Computers and Information Systems (3) F McLaughlin
Introduction to electronic computers and data processing systems as applied to various fields in education. Includes individual projects and field trips to local computer centers. (Lecture 2 hours, laboratory 2 hours.)

490. Special Topics in Instructional Media (1-3) On demand Faculty
Prerequisite: Consent of instructor. Topics of current interest in instructional media selected for intensive study. May be repeated under different topics for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

497. Independent Study (1-3) F, S Faculty
Prerequisite: Consent of instructor and department chairperson. Independent study undertaken under the supervision of a faculty member.

Graduate Division

500. Instructional Systems (3)

501. Theoretical Models Applied to Media (3)

510. Preparation of Photographic Media (2)

511. Preparation of Audio Media (2)

512. Instructional Film Production (3)

513. Multi-Media Message Design (3)

520. Administration of Learning Resource Centers (2)

540. Interactive Computer Systems (3)

590. Special Problems in Instructional Media (1-3)

630. Seminar in Educational Technology (2)

697. Directed Research (1-3)

698. Thesis (1-6)

Library Education

Credential Adviser: Miss Barbara Ward.

Lower Division

100. Introduction to Library Use (1) F, S Brent
Introduction to the use of libraries, library tools, materials and services. Particular emphasis on the college library.

Upper Division

411. Children's Books for School Libraries (3) F, S Ward
Prerequisite: Junior standing. Survey of children's books, past and present. Critical analysis and selection of books for elementary school libraries, based on interests and needs of children and curriculum demands. Use of books with children and reading guidance activities of school librarians.

412. Adolescent Books for School Libraries (3) S Ward
Prerequisite: Lib. Ed. 411. Survey of adolescent books appropriate for the school library, including classics, popular novel, junior novel, paperback books and non-fiction. Analysis of the criteria upon which selection is based; use of selection tools, techniques of reading guidance for the secondary school librarian. Extensive reading and analysis.

420. Basic Reference (3) F Ward
Philosophy of reference service and study of criteria for evaluation of reference and bibliographic resources; study of selected standard reference works and bibliographic cooperation and control.

491. Special Topics in School Librarianship (1-3) On demand Faculty
Prerequisite: Consent of instructor or library education coordinator. Topics of current interest in school librarianship selected for intensive development. May be taken for a maximum of six units.

497. Independent Study (1-3) F, S Faculty
Prerequisite: Consent of instructor and department chair. Independent study undertaken under the supervision of a faculty member.

Graduate Division

510. Selection of Materials (3)

540. Classification and Cataloging of Printed Material (3)

550. School Library Media Center Administration (3)

581. Field Work in the School Library Media Center (4)

Secondary Education

Department Chair: Dr. Harold V. Graham.

Emeriti: Roy C. Anderson, William E. Fisher, Frank F. Gorow, Kephas A. Kinsman, Daniel C. McNaughton, Wallace H. Moore.

Professors: Graham, Jersin, Popham.

Associate Professors: Hidalgo, Marrs, Morris, Sugimoto.

Assistant Professor: Nieto.

Academic Advising Coordinator: Dr. Harold V. Graham.

The Department of Secondary Education provides courses for students working toward single-subject credentials under the Ryan Act, programs for community college teachers, adult education, advanced courses in curriculum, instruction and evaluation for experienced teachers, a program leading to the master of arts in education with an emphasis in secondary education or with specialization in reading and, in cooperation with the Elementary Education Department, the Reading Specialist Credential Program and the Bilingual/Cross-Cultural Credential.

Lower Division

157. Individualized Reading Program (3) F, S Faculty
A reading program that is structured to meet the needs of those students who required intensive developmental reading assistance through an individualized approach. May be repeated once for credit.

Upper Division

310. Secondary Schools and Students (3) F, S Faculty
Prerequisite: Education Single Subject 300. Secondary school pupil development, effects of culture, sociological factors affecting schools, curriculum, controversies about education, problems of secondary education. Cross-cultural field experience is included.

421. Learning and Instruction (3) F, S Faculty
Prerequisite: Education Single Subject 300. This is a competency-based course in systematic instruction which combines theories and conditions of learning with teaching strategies and evaluation of student progress. Cross-cultural field experiences are required.

430. Teaching in a Cross-Cultural Setting (3) F, S Faculty
Teaching youth of varied ethnic backgrounds. Discussion, practicum and field work. (Lecture-discussion 2 hours, practicum 3 hours arranged.)

435. Cross-Cultural Education in United States Society (3) F, S Nieto
Prerequisite: Education Single Subject 300. Concurrent language training recommended. Survey of language variations, socio-economic differences and educational equality in a pluralistic society. Introduction to bilingual and intercultural curriculum alternatives in public schools. Treatment of educational philosophies and inter-racial attitudes of prospective teachers. Analysis of minority adolescent characteristics. Bilinguality not required. (Lecture-discussion 3 hours.)

436. Instruction and Evaluation in a Cross-Cultural Setting (3) F, S Hidalgo
Prerequisite: Education Single Subject 300. Concurrent enrollment in Secondary Education 435 recommended but not required. Application of learning theories to learning styles of minority adolescents. Planning and evaluation methods for bilingual/cross cultural instruction. Orientation to interaction and management practices for effective inter-racial relationships. Bilinguality not required. (Lecture-discussion 3 hours.)

457. Developmental Reading in the Secondary School (3) F, S Graham
Prerequisite: Education Single Subject 300. Principles, materials and evaluation in a developmental reading program in junior and senior high schools. Special attention to the application of word and basic study skills in the content areas; practical classroom methods of diagnosis and remediation. Includes individualized instruction for students enrolled.

458. Newspaper in Education (1-3) SS and on demand Faculty
Use of the daily newspaper as an instructional tool in the classroom. Newspaper articles, features and editorials as a means of providing current content and bases for improvement of reading skills, interests, critical thinking and problem-solving. Understanding mass media.

459. Methods of Teaching Reading in the Secondary Schools (3) F, S Graham
Methods of teaching reading in junior high school, senior high school and community college, including planned observation and participation in public school classrooms. Part of the Reading Specialist Credential. May not be substituted for Secondary Education 457 in the single subject credential program. Must be completed before student teaching in reading.

490. Special Topics in Secondary Education (1-3) On demand Faculty
Prerequisite: Consent of instructor. Topics of current interest in secondary education selected for intensive study. May be repeated under different topics for a maximum of six units. Topics will be announced in the *Schedule of Classes.*

497. Independent Study (1-3) F, S Faculty
Prerequisites: Consent of instructor and department chair. Independent study undertaken under the supervision of a faculty member.

Graduate Division

510. The Community College (3)

520. Advanced Studies in Secondary School Instruction (3)

523. Instruction and Evaluation in College Classes (3)

540. Advanced Studies in Secondary School Curriculum (3)

554A. Competency in Teaching Reading (2)

554B. Competency in Teaching Reading (1)

555. Reading Diagnosis and Remediation (3)

557. Problems in Secondary Reading Instruction (3)

560. Evaluation of Curriculum and Instruction (3)

581A,B,C. Directed Field Experiences in Bilingual/Cross-Cultural Education (3,3,3)

583A-B. Student Teaching in the Community College (3,3)

590. Special Problems in Secondary Education (1-3)

657. Clinical Practices in Secondary Reading (3)

659. Seminar in Secondary Reading (3)

660. Advanced Field Work in Reading (3)

697. Directed Research (1-3)

698. Thesis (1-6)

Education—Single Subject

The designation Education Single Subject is used for those courses which are a part of the professional requirements in the Ryan Single Subject Credential Program (primarily for junior and senior high school teachers). See Secondary Education Department for additional required professional course work.

Education Single Subject 300 is required as the first course in the professional education sequence for the single subject credential under the Ryan Act and should be taken in the junior year. In addition to the hour shown, the student must have a three-hour block of time available one day a week—Monday through Thursday—between the hours of 8 a.m. to 1 p.m. for observation and participation in the public schools in the student's single subject credential major.

Education Single Subject 450 series courses with letter suffixes are required for majors in the respective subject areas who are seeking the Single Subject Credential.

Education Single Subject 470A-B, Final Directed Field Experience, is required for all students seeking the Ryan Single Subject Credential. Each student must sign up for 10 units which indicates full-day full-semester student teaching.

300A-W. Preliminary Directed Field Experiences (2) F, S Faculty
Prerequisite: Advanced sophomore or junior standing. Directed field experiences as a teacher aide. Evaluation of students for admission to the single subject credential. *Required as the first course in the professional education sequence for the single subject credential and should be taken in the junior year.* (Lecture 1 hour, laboratory/field 3 hours.)

300A. Preliminary Directed Field Experience (Art) (2) F, S Faculty

300C. Preliminary Directed Field Experience (Life and Physical Sciences) (2) F, S Faculty

300F. Preliminary Directed Field Experience (Foreign Languages—French, German, Spanish) (2) F, S Faculty

300G. Preliminary Directed Field Experience (English, Comparative Literature, Journalism, Speech, American Studies, Radio-Television and Dance) (2) F, S Brekke, Day

300H. Preliminary Directed Field Experience (Home Economics) (2) F, S Moore

300I. Preliminary Directed Field Experience (Industrial Education) (2) F, S Farr, Patcha

300M. Preliminary Directed Field Experience (Mathematics) (2) F, S Conroy

300N. Preliminary Directed Field Experience (Music) (2) F, S Anderson

300P. Preliminary Directed Field Experience (Physical Education-Track I, Dance) (2) F, S Sandefur, Wuesthoff

300S. Preliminary Directed Field Experience (Social Sciences, including Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology) (2) F, S Faculty

300W. Preliminary Directed Field Experience (Physical Education-Track II, Dance) (2) F, S Baker, Franklin

450A. Curriculum and Methods of Art Education (3) F, S Purcell, Schultz
Prerequisite: Admission to the Single Subject Credential Program. Objectives, curriculum, materials and procedures in art education. Includes a survey of historical and current practices in art teaching with emphasis on the relationship of art to the total school program. Must be completed prior to student teaching.

450C. Curriculum and Methods in Teaching Natural Science (3) F, S Faculty
Prerequisite: Admission to the Single Subject Credential Program. Objectives, curriculum, materials and procedures used in teaching science. Must be completed before student teaching. (Lecture 2 hours, laboratory 3 hours.)

450F. Methods of Teaching Foreign Languages (3) F, S Faculty
Prerequisite: Admission to the Single Subject Credential Program. Procedures for teaching French, German, Latin or Spanish. Includes supervision of co-curricular foreign language activities. Should be taken the semester prior to student teaching. Several sections in different languages may be offered. See *Schedule of Classes* for appropriate section.

450G. Teaching English (3) F, S Borowiec, Brekke, Day, Sullivan
Prerequisite: Admission to the Single Subject Credential Program. Methods of teaching language, literature and composition in junior high school, senior high school and community college. Includes instruction in techniques of teaching. Must be completed before student teaching.

450H. Methods and Curriculum in Home Economics Education (3) F, S Moore
Prerequisite: Admission to the Single Subject Credential Program. Objectives, curriculum, methods and materials used in teaching home economics in secondary schools. Must be taken the semester prior to student teaching.

450I. Curriculum and Methods in Industrial Education (3) F, S Farr
Prerequisite: Admission to the Single Subject Credential Program. Objectives, curriculum, materials and procedures in teaching industrial education with emphasis on current practices and the relationship of industrial education to the total school program. Must be taken the semester prior to student teaching.

450M. Curriculum and Methods in Teaching Mathematics (3) F Dorn
Prerequisite: Admission to the Single Subject Credential Program. Objectives, curriculum, methods and materials used in teaching mathematics. Must be taken prior to the final directed field experience.

450N. Teaching and Observation of Music (3) F, S Winslow
Prerequisites: Admission to the Single Subject Credential Program, major or minor in music. Philosophy, objectives, curriculum, materials, procedures and current practices in teaching music in secondary schools. Classroom music, instrumental and vocal music methods are presented. Should be taken the semester prior to student teaching.

450P. Curriculum and Methods in Teaching Physical Education-Track I (3) F, S Bartlett, Morgan
Prerequisite: Admission to the Single Subject Credential Program. Limited to students qualified to enroll in student teaching the following semester. Two hours lecture in philosophy, curriculum, legal aspects and public relations as they pertain to physical education. Students are assigned to physical education activity courses as cadet teachers. Students must meet minimum activity skill performance standards.

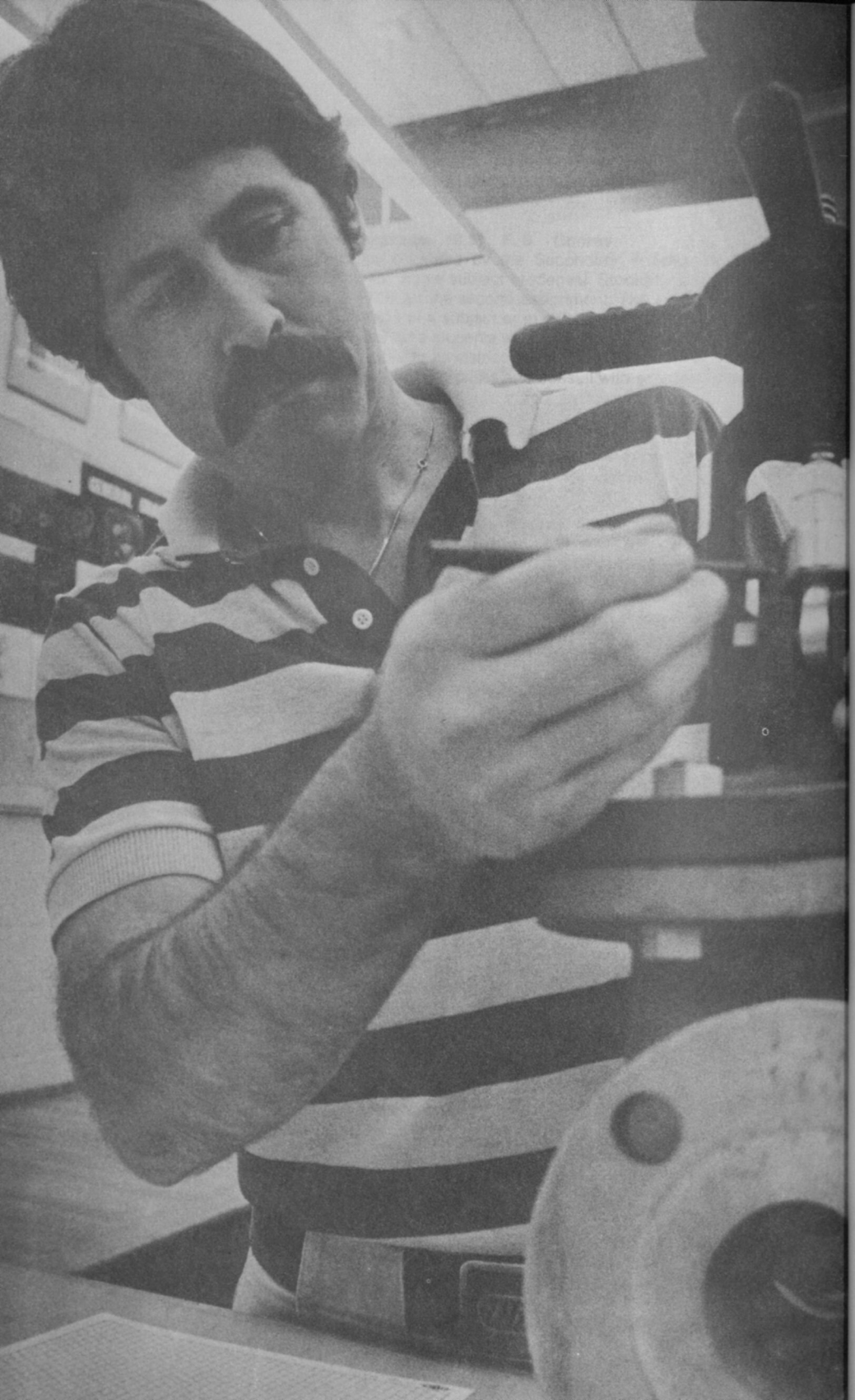
450S. Curriculum and Methods of Teaching Social Science (3) F, S Faculty
Prerequisite: Admission to the Single Subject Credential Program. Objectives, methods and materials for teaching social science in junior and senior high school. Should be taken prior to student teaching, except for experienced teachers.

450W. Curriculum and Methods in Teaching Physical Education-Track II (3) F, S Franklin

Prerequisite: Admission to the Single Subject Credential Program. Curriculum and procedures in teaching physical education. Must be taken by majors and minors the semester prior to student teaching.

470A-B. Final Directed Field Experience (5,5) F, S Conroy

Prerequisite: Candidates must be accepted by the Secondary Teacher Education Committee for student teaching for the single subject credential. Students will register in 470A for the first assignment and 470B for the second assignment. The assignments will be in different subjects, different phases of a subject or in different schools. Assignments are for a full day for an entire semester. The students will teach three regular classes daily for which they have complete responsibility as district policy will allow. For the other two periods the students will engage in faculty enterprises and consult with school and college supervisors.



School of Engineering

Administrative Officers

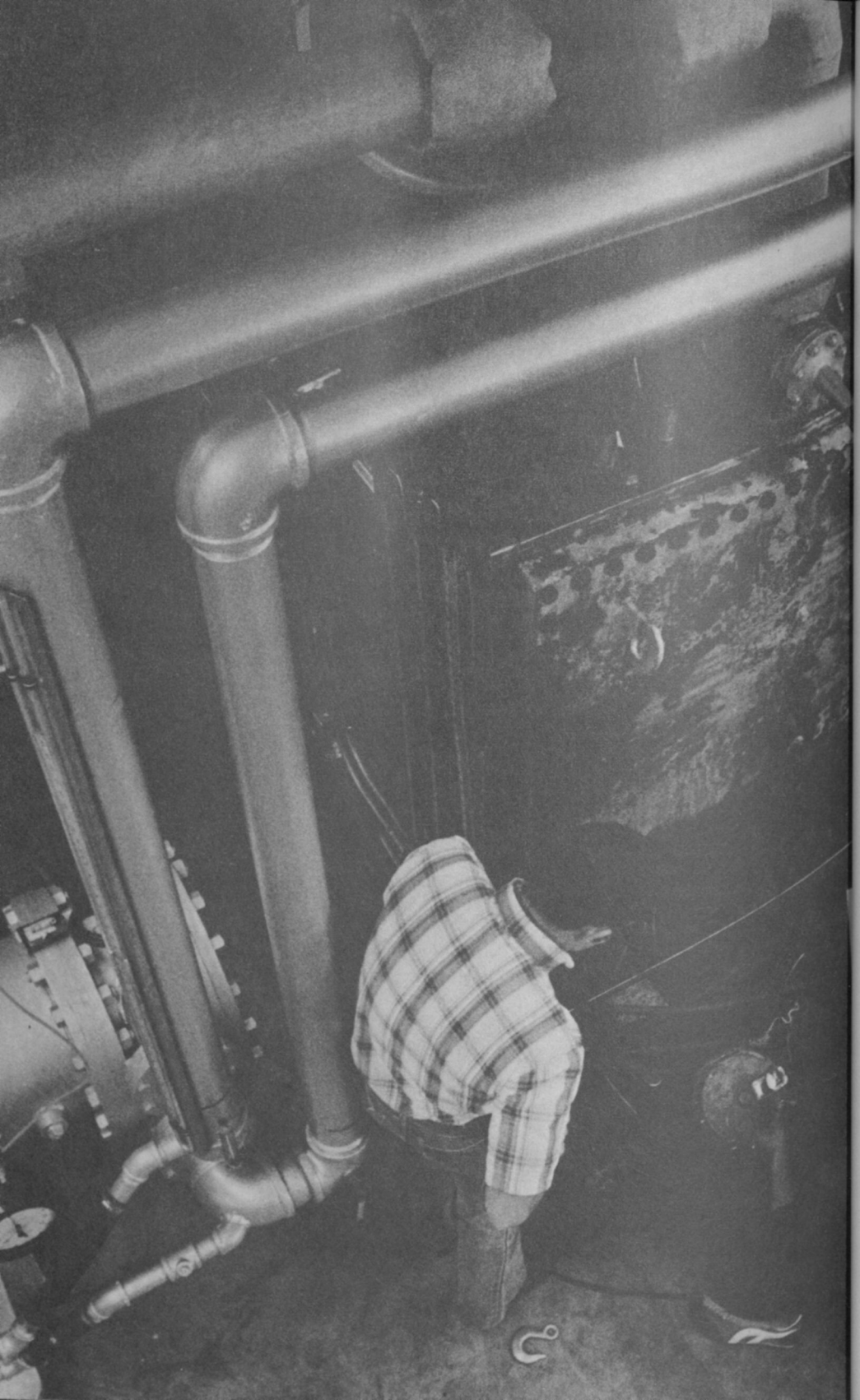
Dr. Richard C. Potter	Dean of the School	Engr. 1-102
Mr. Willard H. Reed	Associate Dean	Engr. 1-108

Directory of Departments

Department	*Chair*	*Dept. Offices*
Chemical Engineering	Dr. John M. Lenoir	Engr. 1-424
Civil Engineering	Dr. Chunduri V. Chelapati	Engr. 2-101
Electrical Engineering	Dr. Edward N. Evans	Engr. 1-415
Mechanical Engineering	Dr. Hillar Unt	Engr. 1-206

Other School Offices

Biomedical Engineering	Dr. Morton D. Schwartz	Engr. 1-506
Computer Engineering	Dr. H. John Lane	Engr. 1-502
Engineering Research Center	Dr. Richard C. Potter	Engr. 1-102
Materials Engineering	Dr. C. Barclay Gilpin	Engr. 1-309
Industrial-Management Engineering	Dr. James L. Dyer	Engr. 2-302A
Ocean Engineering	Capt. L. Boyd Kendall	Engr. 1-404A



School of Engineering

Emeriti: Cecil V. Armour, Ernest G. Brind, John H. Dudley, Richard W. Leutwiler, Jr., Rodney C. Lewis, William D. McIlvaine, Harold T. Miller, Herluf P. Nielsen, Robert E. Vivian, Harold W. Washburn.

The School of Engineering offers four-year curricula leading to bachelor of science degrees in nine engineering disciplines which provide broad education and training for entry to the engineering profession and for continuing academic work towards an advanced degree. The master of science degree is offered in civil, electrical and mechanical engineering, and an interdisciplinary degree, the master of science degree in engineering, is offered also. Information on these graduate degrees is obtainable in the *Graduate Bulletin*. The undergraduate program includes a minimum of 132 semester units and provides opportunity in the upper division to specialize in the areas of biomedical, chemical, civil, computer, electrical, industrial-management, materials, mechanical and ocean engineering. The options in civil, computer, electrical, materials, mechanical and ocean engineering are accredited by the Engineers' Council for Professional Development. Many of the engineering courses are available in evening or Saturday classes primarily for those employed in local industries.

The high school student planning to enter engineering is advised to pursue a strong program in pre-engineering subjects. These subjects should include biology, physics, chemistry, advanced algebra, trigonometry and one year of mechanical drawing in addition to the general requirements for admission to the University. Deficiencies in some of the above areas may result in an extension of the time required to complete a program in engineering.

The curricula are also designed to accommodate students transferring with pre-engineering training from other colleges such as the community colleges and liberal arts colleges. Transfer students should note and follow where possible, the appropriate curriculum as outlined in later sections.

Engineering Advisory and Development Council

The Engineering Advisory and Development Council for the School of Engineering consists of outstanding engineers and executives from industry and government in the area served by California State University, Long Beach. Its function is to afford a liaison between the University and industry and to keep the administration and faculty informed of modern engineering practices. This will insure that the curricula are kept abreast of the times. It will also advise on placement opportunities before and after graduation. The council membership consists of the following:

Mr. Willard Bascom, Director
Southern California Coastal Water Research Project

Mr. Raymond F. Berbower, Assistant Chief Harbor Engineer,
Port of Long Beach

Mr. Frank S. Bole, Partner,
Bole & Wilson, Civil Structural Engineers

Mr. Hugh C. Carter, Chairman of the Board
Hugh Carter Engineering Corporation

Mr. Donald L. Kinnsch, Chief Plant Design Engineer
Bechtel Power Corporation

Mr. James A. Lighthipe, Engineer (Retired)
Southern California Edison Company

Mr. Kenneth F. McQuade, Vice President and General Manager
Space and Secure Telecommunications Systems Division
Rockwell International Corporation

Mr. Robert D. Nichol,
Moffat and Nichol Engineers

Mr. H. George Osborne, Director
Orange County Environmental Management

Mr. J. M. Palmer, Jr., Branch Chief
Research and Development, Douglas Aircraft Co.

Dr. Russell Riese, Chief Higher Education Specialist
California Post Secondary Commission on Education

Mr. Edward M. Twining, President
Twining Laboratories of Southern California, Inc.

Dr. Edward Van Driest
Rand Corporation

Dr. Robert E. Vivian, Dean Emeritus
CSULB School of Engineering

Mr. Fred Wunderlich, Area Engineer
Guy F. Atkinson Company

Engineering Facilities

The engineering buildings house the School of Engineering and permit all engineering laboratory and design facilities, school and departmental offices and faculty offices to be grouped in a central location. The five-story engineering building provides ample laboratory, classroom and office space for expanding programs. The complex includes laboratory facilities in each of the instructional areas described in the following paragraphs.

Master of Science Degree in Engineering

A program of study leading to the master of science degree in engineering is offered. This program is accredited by the Engineers' Council for Professional Development. For detailed information concerning requirements see the *Graduate Bulletin*.

Engineering Liaison Committee Statement

The School of Engineering subscribes to the following statement approved by the Engineering Liaison Committee of the State of California:

Based on the 1970-71 requirements, any student of a California community college, with a stated major in engineering, who presents a transcript showing satisfactory completion of the following proposed core program in the lower division, will be able to enroll in this institution with regular junior standing; and further, assuming normal progress, said student can complete an engineering program in four additional semesters with a regular bachelor's degree, presuming, upon transfer, that the student has completed at least 50 percent of the graduation unit requirement in that program. Completion of a specific program of the student's choice will be dependent upon the proper selection of elective courses.

Subject Area	*Semester Units*	*Quarter Units*
Mathematics (beginning with analytical geometry and calculus and completing a course in ordinary differential equations)	16	24
Chemistry (for engineers and scientists)	8	12
Physics (for engineers and scientists)	12	18
Statics	3	4
Graphics and descriptive geometry	3	4
Computers (digital)	2	3
Orientation and motivation	1	1
Properties of materials	3	4
Electric circuits	3	4
Electives	11-15	17-23

Concurrent and/or Summer Enrollment in Another College

Students who wish to take course work in a community college or another college to meet curricular requirements while enrolled as an undergraduate in the School of Engineering must petition the appropriate department for prior approval to enroll in specific courses. This policy is for either concurrent enrollment or summer enrollment. University policy must also be complied with. (See "Concurrent Enrollment" and "Transfer of Undergraduate Credit" in this *Bulletin*.) Courses not receiving prior approval will not be accepted for credit by the department.

Chemical Engineering

Department Chair: Dr. John M. Lenoir.

Professor: Lenoir.

Associate Professor: Hile.

Academic Advising Coordinator: Dr. John M. Lenoir.

Chemical engineering is concerned with the conversion of chemical materials into products of increased economic utility and benefit to consumers.

The chemical engineering curriculum gives the student a thorough background in chemistry, mathematics, physics, engineering science, and engineering design and analysis to be applied to current technical problems as well as potential technical problems that might arise in the future. The objectives are to serve as preparation for immediate employment as a chemical engineer in industry, to provide a basis for later graduate study and research or to offer a background for possible advanced study in business administration, marketing or law.

All chemical engineering students must have received a minimum grade of C in each of the prerequisites for any chemical engineering course. In addition to any other all-university requirements regarding grade point average for graduation, a chemical engineering student must achieve a minimum 2.0 average in all chemical engineering courses attempted.

Bachelor of Science Degree in Chemical Engineering (code 3-4320)

Lower Division: Chemistry 111A-B, 251, 251L; C.E. 101, 205; E.E. 210, 210L; Mathematics 122, 123, 224; M.E. 172; Physics 151, 152; Ch.E. 200.

Upper Division: Ch.E. 305, 310, 320, 330, 410, 420, 430, 440, 450, 460, 470; C.E. 406; Chemistry 321A, 322, 371A; Mathematics 370A; 3 units of economics; 6 approved elective units in chemical, civil, electrical or mechanical engineering; 3 units of technical writing; approved electives to total 132 units.

Lower Division

200. Chemical Engineering Fundamentals (3) F,S Hile
Prerequisites: Chemistry 111A, Mathematics 123, Physics 151. Dimensional analysis of units, steady and transient balances of mass, momentum and energy, the mathematical solution of chemical engineering problems. Not open to students with credit in Chemistry 381. (Lecture-problems 3 hours.)

Upper Division

305. Computer Methods in Chemistry (2) F, S Hile
Prerequisites: Chemistry 111A, Mathematics 224, Physics 151. Beginning Fortran programming applied to typical problems in chemical engineering and chemistry. (Lecture-problems 1 hour, laboratory 3 hours.)

310. Chemical Engineering Thermodynamics I (3) F Lenoir
Prerequisites: Chemistry 111A, Mathematics 123. Thermodynamics of real gases and liquids, thermodynamic functions, relations between heat and work, application to chemical engineering processes. (Lecture-problems 3 hours.)

320. Fluids (3) S Lenoir
Prerequisites: Ch.E. 200, C.E. 205. Study of the deformation and flow of fluids, both liquids and gases, with applications to chemical engineering. (Lecture-problems 3 hours.)

330. Separation Processes (4) S Hile, Lenoir
Prerequisite: Ch.E. 200. Computation methods for predicting the separation of materials by distillation, absorption, extraction and other methods. (Lecture-problems 3 hours, laboratory 3 hours.)

410. Chemical Engineering Thermodynamics II (3) F Lenoir
Prerequisite: Ch.E. 310. Multiphase properties including advanced equations of state. (Lecture-problems 3 hours.) Not open to students with credit in Chemistry 484.

420. Heat and Mass Transport (3) F Hile, Lenoir
Prerequisite: Ch.E. 320. Heat exchange by conduction, convection and radiation. Diffusion in fluids and solids. Simultaneous heat and mass transport. (Lecture, problems 3 hours.) Not open to students with credit in Chemistry 382.

425. Polymer Synthesis and Characterization (3) F Hile
Prerequisites: Chemistry 111A, Physics 151, Mathematics 123 or consent of instructor. Physical and chemical concepts in the production of polymers. Relation of the chemical structure to bulk properties of plastics. Laboratory synthesis of polymers and their mechanical, thermal and molecular characterization. (Lecture-problems 2 hours, laboratory 3 hours.)

430. Chemical Reactor Kinetics (3) F Hile, Lenoir
Prerequisite: Chemistry 111A. Homogeneous and heterogeneous reactions and application to reactor design, catalysts. (Lecture-problems 3 hours.)

440. Chemical Engineering Laboratory I (2) F Hile
Prerequisites: Ch.E. 310, 320, 330. Laboratory study of fluid mechanics, separation processes and thermodynamics. Experimental design and analysis and preparation of engineering reports. (Laboratory 6 hours.) Not open to students with credit in Chemistry 482.

450. Chemical Engineering Laboratory II (2) S Hile
Prerequisites: Ch.E. 420, 430, 440, 460 (may be taken concurrently). Laboratory study of heat and mass transport, chemical kinetics and control theory. (Laboratory 6 hours.) Not open to students with credit in Chemistry 483.

460. Chemical Process Control (3) S Faculty
Prerequisites: Ch.E. 420, 430; E.E. 210, 210L. Control theory and practice including electrical analogs of processes, root-locus and Bode plots and stability criteria. (Lecture-problems 3 hours.) Not open to students with credit in Chemistry 485.

470. Chemical Engineering Design (4) S Lenoir
Prerequisites: Ch.E. 310, 330, 420, 430. Design based upon economics and chemical engineering design and analysis. (Lecture-problems 3 hours, problem-design session 3 hours.) Not open to students with credit in Chemistry 486.

475. Environmental Pollution (3) On demand Hile
Prerequisites: Chemistry 111A-B. Recommended: Chemistry 321A, 371A. Application of chemistry to the problems of pollution. (Lecture-problems 3 hours.)

480. Theoretical Methods in Chemical Engineering (3) On demand Hile
Prerequisites: Ch.E. 305, 310, 420, 430. Simulation and optimization of chemical engineering processes by mathematical formulation and computer modeling. (Lecture-problems 3 hours.)

490. Special Topics in Chemical Engineering (1-3) On demand Hile
Prerequisites: Senior standing in chemical engineering and consent of instructor. Selected topics from recent advances in chemical engineering. Course content will vary from year to year and may be repeated once for credit. Specific topic will be recorded on the transcript of the student.

Civil Engineering

Department Chair: Dr. Chunduri V. Chelapati.

Emeriti: Cecil V. Armour, John H. Dudley, William D. McIlvaine, Harold T. Miller.

Professors: Al-Chalabi, Alexander, Chelapati, Eshett, Mostafa, Neidengard, Reed, Yen, Ying, Zagustin.

Associate Professors: Bakker, Chu, Plecnik.

Assistant Professor: Amy.

Lecturer: Rao.

Academic Advising Coordinator: Dr. W.H. Ying.

The Department of Civil Engineering offers an option designed to give the students a broad educational background essential to modern civil engineering practice. The program is built around a basic core of mathematics, natural and engineering sciences common to accredited professional engineers' programs. It is planned to give a selection of basic engineering-science education to enable the graduate to begin a career in any of the various fields of practice in civil engineering or to prepare for graduate study in related engineering majors. It makes possible a systematic and integrated foundation in the principles of structural analysis and design, transportation systems, environmental systems, soils and foundations, hydraulic and coastal engineering, construction materials and urban engineering. Opportunity to explore a particular area of interest is offered in the wide selection of civil engineering electives to permit students a sequence of courses related to the area of their choice.

The four engineering buildings house laboratory facilities in fluid mechanics and hydraulics, materials of construction, transportation, soils and foundations, structures, photo measurement, surveying, urban and environmental engineering.

Civil Engineering Professional Advisory Council

The Civil Engineering Professional Advisory Council provides a link between the department and the community served by the University. It provides for an exchange of ideas related to the engineering profession and education. The council assists the department as appropriate and recommends on matters pertinent to the graduate and undergraduate programs. Current members of the council are:

Dr. Mihran S. Agbabian, Agbabian Associates, El Segundo
Mr. Sigmund A. Burke, Fluor Engineers & Constructors, Inc., Irvine
Ms. Adele B. Dunham, Jacobs Engineering Co., Pasadena
Mr. Bob N. Hoffmaster, Harbor Department, City of Long Beach
Mr. Roy G. Johnston, Brandow & Johnston Associates, Los Angeles
Dr. Robert J. McNeill, Consulting Engineer
Mr. John Maulding, Los Angeles County Department of Engineers
Dr. W. J. Nordell, Civil Engineering Laboratory, U.S. Navy, Port Hueneme
Mr. Alfonso Robles, Jr., Corps of Engineers, Los Angeles
Mr. James Williams, Chief of Design, Orange County Flood Control District
President, CSULB Student Chapter American Society of Civil Engineers
President, Chi Epsilon, Civil Engineering Honor Society

Bachelor of Science Degree in Engineering
Civil Engineering Option (code 3-4325)

Lower Division: C.E. 101, 200, 205, 206, 225; M.E. 172; Mathematics 122, 123, 224; Chemistry 111A; Physics 151, 152, and one course from Chemistry 111B, Ch.E. 200 or Physics 153.

Upper Division: Mathematics 370A; C.E. 301, 305, 335, 345, 346, 359, 406, 426, 437, 458, 459, 460, 464; Geology 370; M.E. 330, 371, 373; E.E. 311; any two laboratories selected from C.E. 336, 356, 491, M.E. 331, 374; an upper or lower division course in economics; electives to total 132 units including no fewer than 12 units of civil engineering courses not specified for the degree. Nine of the above 12 units of civil engineering must be selected from the design courses C.E. 427, 438, 445, 455, 456, 457, 466, 492.

Master of Science Degree in Civil Engineering
Civil Engineer Degree

Programs of study leading to the master of science degree in civil engineering and the professionally oriented civil engineer degree requiring one year of study beyond the master's degree are offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

101. Introduction to Engineering and Engineering Design (1) F, S Faculty
Elementary application of engineering methods to case histories. (Lecture-problems 1 hour.)

200. Materials of Engineering Construction (2) F, S Alexander
Prerequisites: Chemistry 111A, Physics 151. Use, properties and limitations of materials of engineering construction. (Lecture-problems 1 hour, laboratory 3 hours, field trips.)

205. Analytical Mechanics I (Statics) (3) F, S Faculty
Prerequisite: Physics 151; prerequisite or co-requisite: Mathematics 123. Application of the mechanics of equilibrium to force systems using analytical and graphical solutions of problems involving structures and machines. (Lecture-problems 3 hours.)

206. Computer Programming and Civil Engineering Applications (2) F, S Ying
Prerequisites: Mathematics 122, Physics 151. Introduction to Fortran programming and application of computers to elementary civil engineering problems. (Lecture-problems 1 hour, laboratory 3 hours.)

225. Surveying and Mapping (3) F, S Faculty
Prerequisite: M.E. 172. Theory and practice of plane surveying including the use of instruments. Measurement and keeping field notes of distances, angles, elevations, traversing and plane tabling. Plotting of surveying data as related to profiling contours and topography. Study and interpretation of maps relating to civil cartography. (Lecture-problems 2 hours, field work 3 hours.)

Upper Division

301. Engineering Forum (1) F, S Faculty
Prerequisite: Junior standing. Lectures on current topics in civil engineering practice. Professional society meetings and readings.

305. Technical Communications (3) F, S Neldengard
Prerequisite: English composition. Various oral, written, symbolic and numerical methods of recording, processing and transmitting technical information. (Lecture-problems 3 hours.)

335. Fluid Mechanics (3) F, S Chu, Eshett, Mostafa
Prerequisites: Mathematics 224, C.E. 205 or consent of instructor. Properties of fluids, fluid statics, fluid dynamics, dynamic similitude, flow of compressible and incompressible fluids in closed conduits, uniform flow in prismatic open channels. (Lecture-problems 3 hours.)

336. Fluid Mechanics Laboratory I (1) F, S Faculty
Prerequisite or co-requisite: C.E. 335. Experiments in and study of the phenomena of fluid flow. (Laboratory 3 hours.)

345. Soils and Foundations (3) F, S Al-Chalabi, Yen
Prerequisites: M.E. 373, Geology 370. Soil mechanics applied to engineering structures. Soil exploration, identification, classification, drainage stability and bearing capacity. (Lecture-problems 3 hours.)

346. Soils and Foundation Laboratory (1) F, S Al-Chalabi, Yen
Prerequisites: C.E. 200, 305, prerequisite or co-requisite: C.E. 345. Laboratory investigation and experiments in the phenomena of soil mechanics. (Laboratory 3 hours.)

356. Concrete and Masonry Laboratory (1) F Alexander
Prerequisite: M.E. 373. Experimentation and study of Portland cement concrete, mortar, masonry units and grout. (Laboratory 3 hours.)

359. Structural Analysis I (3) F, S Chelapati, Ying, Zagustin
Prerequisite: M.E. 373. Analysis of determinate and indeterminate structures including trusses, beams and frames, conjugate beam, virtual work, energy methods, approximate methods, and influence lines. (Lecture-problems 3 hours.)

390. Engineering and Civilization (3) On demand Faculty
Readings and lectures providing perspective and insight into current problems at the interfaces between engineering and other disciplines, especially anthropology, art, ecology, economics, philosophy, psychology, science and the social sciences.

401. Engineering Analysis I (3) F Eshett
Prerequisite: Mathematics 370A. Application of analytical methods to engineering problems. Differential equations and series solutions, Bessel functions and Legendre polynomials, boundary value and eigenvalue problems, Fourier series, partial differential equations, vector analysis. Same course as M.E. 401. (Lecture-problems 3 hours.)

402. Engineering Analysis II (3) S Eshett
Prerequisite: Mathematics 370A. Analysis of engineering mechanics by matrix theory and complex variables; introduction to numerical techniques. Same course as M.E. 402. (Lecture-problems 3 hours.)

403. Applications of Statistical Methods (3) S Eshett
Prerequisite: Mathematics 370A. Civil engineering applications of non-deterministic models and decision theory. (Lecture-problems 3 hours.)

404. Laboratory Techniques (1) F, S Faculty
Prerequisites: Senior standing in civil engineering and consent of instructor. Study in the techniques of organizing and directing of the civil engineering laboratory. May be repeated for maximum credit of 3 units. (Conference 1 hour, laboratory 3 hours.)

405. Special Topics in Civil Engineering (3) On demand Faculty
Prerequisite: Senior standing in civil engineering or consent of instructor. Selected topics from recent advances in civil engineering. Course content will vary from year to year. Specific topic will be recorded on the student's transcript. (Maximum credit 6 units.)

406. Engineering Economy and Administration (3) F, S Faculty
Prerequisite: Senior standing or consent of instructor. Engineering management principles and economic analysis with emphasis on time value of money. (Lecture-problems 3 hours.)

407. Urban Engineering (3) F Neidengard
Prerequisite or co-requisite: C.E. 464 or consent of instructor. Administration, coordination and planning of city engineering departments. (Lecture-problems 3 hours.)

408. Special Problems (1-3) F, S Faculty
Prerequisite: Senior standing in civil engineering. Assigned topics in technical literature or laboratory projects and reports on same.

409. Computer Methods in Civil Engineering (3) On demand Ying
Prerequisite: C.E. 206 or consent of instructor. Numerical analysis and computer methods applied to various branches of civil engineering, including special problem oriented languages. Not open to students with credit in C.E. 306. (Lecture-problems 3 hours.)

420. Higher Surveying (3) On demand Faculty
Prerequisite: C.E. 225. Advanced techniques in surveying. (Lecture-problems 2 hours, field work 3 hours.)

426. Transportation Engineering (3) F, S Alexander, Neidengard
Prerequisites: C.E. 200, 305 or consent of instructor. Theory, design and operation of various modes of transportation. (Lecture-problems 3 hours.)

427. Highway Design (3) S Alexander
Prerequisite: C.E. 345. Design problems in highway engineering. Design project. (Lecture-problems 3 hours.)

428. Engineering Photogrammetry (3) On demand Faculty
Prerequisite: Senior standing or consent of instructor. Aerial photogrammetry, principle and interpretation as related to cartography, triangulation, highway design, soil surveys, city planning and route location. (Lecture-problems 2 hours, laboratory 3 hours.)

429. Traffic Engineering (3) F Faculty
Prerequisite: C.E. 426 or consent of instructor. Traffic engineering as related to studies, planning, operation and administration. (Lecture-problems 3 hours.)

435. Hydrology (3) F Eshett
Prerequisite: C.E. 335. Fundamental surface and ground water hydrology, concepts and quantitative methods. Selected topics and procedures of the hydrological cycle. (Lecture-problems 3 hours.)

437. Open Channel Hydraulics (3) F, S Mostafa
Prerequisites: C.E. 335, Mathematics 370A. Theory and analysis of steady uniform and non-uniform flow in open conduits. Energy and momentum principles, critical flow computations and applications, design of channels, computations of gradually varied, spatially varied and rapidly varied flows. (Lecture-problems 3 hours.)

438. Hydraulic Engineering Design I (3) S Chu, Mostafa
Prerequisite: C.E. 335. Application of hydraulic principles to the design of dams, water courses, water systems and their related structures and devices. (Lecture-problems 3 hours.)

439. Marine Civil Engineering (3) F Chu
Prerequisite: Senior standing with a background in natural science or engineering. Introduction to the application of engineering principles to problems of the coastal and estuarine environments. (Lecture-problems 2 hours, sea laboratory 3 hours.)

445. Soil Mechanics in Engineering Practice (3) F Yen
Prerequisites: C.E. 345, 346 or consent of instructor. Methods of design and construction of various soil engineering projects utilizing theory of soil mechanics. (Lecture-problems 3 hours.)

450. Imbedding Methods in Mechanics and Structures (3) F even years Zagustin
Prerequisites: Senior standing or consent of instructor, working knowledge of FORTRAN. Boundary value problems and integral equations in mechanics and structures are reduced to initial value problems. Applications to problems in structures and other mechanics of engineering. Students will program original work. (Lecture-problems 3 hours.)

455. Structural Steel Design (3) F, S Plecnik
Prerequisite: C.E. 359. Detailed design of structural steel components with typical codes and specifications. (Lecture-problems 3 hours.)

456. Timber Design (3) F, S Faculty
Prerequisite: C.E. 359. Design of stressed skin panels, supporting members, frames and their connections. Applications to timber structures and concrete formwork. (Lecture-problems 3 hours.)

457. Reinforced Masonry Design (3) F, S Amrhein
Prerequisite: C.E. 359. Theory, design and application of reinforced masonry (brick and block) in compliance with the Uniform Building Code. Earthquake provisions. Construction and specifications. Design of high rise buildings, industrial buildings, retaining walls. (Lecture-problems 3 hours.)

458. Structural Analysis II (2) F, S Faculty
Prerequisite: C.E. 359. Solution of indeterminate structures using moment distribution and slope deflection methods. Introduction to matrix methods. Computer solutions. (Lecture-problems 2 hours.)

459. Reinforced Concrete Design (3) F, S Faculty
Prerequisite: C.E. 359. Theory and design of structural elements of reinforced concrete, analysis by working stress and ultimate strength design theories. (Lecture-problems 3 hours.)

460. Environmental Impact (3) F, S Faculty
Historical perspective of environmental legislation, laws and acts. Physical factors of environmental quality. Socio-economic factors in environmental quality. Evaluation and review of selected case studies and EIS's. (Lecture-problems 3 hours.)

463. Land Environment Engineering (3) F Bakker
Prerequisite or co-requisite: C.E. 464 or consent of instructor. Engineering aspects of optimal land utilization including modification of current land use practices, reclamation and reassignment. (Lecture-problems 3 hours.)

464. Environmental Engineering (3) F, S Bakker
Prerequisites: C.E. 335, completion of chemistry requirement. Engineer and his community. Source, use and management of land, air, water and related resources. (Lecture-problems 2 hours, laboratory 3 hours, field trips.)

465. Water Environment Engineering (3) F Faculty
Prerequisite or co-requisite: C.E. 464 or consent of instructor. Engineering aspects of optimal water utilization and water quality modification and maintenance. (Lecture-problems 3 hours.)

466. Environmental Systems Design (3) F, S Faculty
Prerequisite: C.E. 437, prerequisite or co-requisite: C.E. 464 or consent of instructor. Parameters and design of (1) water distribution systems, (2) waste water collection systems, (3) storm water collection and transportation systems. (Lecture-problems 3 hours.)

467. Water Resources Engineering (3) S Bakker
Prerequisites: C.E. 406, 464 or consent of instructor. Economics, planning, development and management of water resources. (Lecture-problems 3 hours.)

468. Marine Pollution Control (3) F, S Faculty
Prerequisite: C.E. 464 or consent of instructor. Marine and domestic pollution of coastal and estuarine waters. (Lecture-problems 3 hours.)

469. Air Environment Engineering (3) S Faculty
Prerequisite or co-requisite: C.E. 464 or consent of instructor. Engineering aspects of optimal atmosphere utilization including natural and technological modification, quality concepts. (Lecture-problems 3 hours.)

470. Engineering Contracts and Specifications (3) F Faculty
Prerequisites: C.E. 200, 301. Principles of contracts and specifications, codes, drawings and estimates. Applications of business law to engineering. Not open to students with credit in Civil Engineering 400. (Lecture-problems 3 hours.)

471. Cost Estimating and Bidding (3) S Faculty
Prerequisites: C.E. 426, 459. Construction cost estimating of large engineering projects and the preparation of appropriate bids. (Lecture-problems 3 hours, field trips.)

472. Engineering Project Techniques (3) F Faculty
Prerequisites: C.E. 406, 426. Principles of large engineering projects and the techniques of construction. (Lecture-problems 3 hours, field trips.)

473. Project Management (3) S Faculty
Prerequisites: C.E. 200, 206, 305. Theory and application of logic and current techniques in the planning, scheduling and managing of engineering projects. Not open to students with credit in Civil Engineering 403. (Lecture-problems 3 hours.)

482. City Planning (3) S Neidengard
Prerequisite: Senior standing in civil engineering or consent of instructor. History and analysis of events influencing the physical growth of cities. Evolution of city planning. (Lecture-problems 3 hours.)

491. Structures Laboratory (1) S Chelapati, Plecnik
Prerequisites or co-requisites: C.E. 455, 459. Laboratory examination of structural concepts. (Laboratory 3 hours.)

492. Advanced Structural Design (3) F Faculty
Prerequisites: C.E. 455, 458, 459. Complete integrated designs of structural systems in concrete and steel. Field trips. (Lecture-problems 3 hours.)

494. Finite Element Methods I (3) S Plecnik
Prerequisite: C.E. 458 or consent of instructor. Introduction to finite element methods for structural and stress analysis and design. Applications using computer program SAP and various elements are emphasized. (Lecture-problems 3 hours.)

Graduate Division

502. Finite Element Methods II (3)

504. Advanced Topics in Civil Engineering (3)

506. Engineering Economy for Complex Systems (3)

507. Port Engineering Management (3)

521. Seaport Planning and Design (3)

522. Transportation Planning (3)

524. Geometry of Highway Design (3)

525. Airport Planning and Design (3)

526. Pavement Engineering (3)

530. Mathematical Models in Hydraulic Engineering (3)

531. Groundwater and Seepage (3)

532. Sediment Transportation (3)

533. Coastal Hydrodynamics (3)

534. Hydraulic Models (3)

538. Hydraulic Engineering Design II (3)

539. Coastal Engineering (3)

545. Rock Mechanics in Engineering Practice (3)

546. Theory and Design of Foundation Structures (3)

547. Soil Dynamics (3)

548. Applied Soil Mechanics (3)

549. Advanced Soil Mechanics Techniques (3)

550. Behavior and Design of Concrete Structures (3)

551. Prestressed Concrete (3)

552. Theory of Plates and Shells (3)

555. Seismic Design (3)

556. Advanced Structural Analysis I (3)

557. Advanced Structural Analysis II (3)

558. Dynamics of Structures (3)

559. Elastic-Plastic Instabilities (3)

560. Environmental Engineering Laboratory I (3)

562. Environmental Engineering Design I (3)

563. Environmental Engineering Design II (3)

564. Public Health Engineering (3)

565. Environmental Waste Engineering (3)

602. Seminar in Civil Engineering (3)

696. Research Methods (1)

697. Directed Studies (1-3)

698. Thesis (2-6)

699. Thesis (3-9)

Electrical Engineering

Department Chair: Dr. Edward N. Evans.

Emeriti: Rodney C. Lewis, Harold W. Washburn.

Professors: Arnett, Hostetter, Houde, Jordanides, Kendall, Lane, Lindquist, Paal, Schwartz, Stefani, Winchell.

Associate Professors: Carissimo, Cain, Evans, Valdez.

Assistant Professor: Ferguson.

Lecturers: Lee, Savant, Sorensen.

Adjunct Professor of Ocean Engineering: Willard Bascom.

Adjunct Clinical Professor: Irvin Unger.

Academic Advising Coordinator: Dr. Raymond T. Stefani.

Biomedical Engineering Option

The Electrical Engineering Department offers an option in biomedical engineering that has a curriculum similar to the electrical engineering option but allows the student to acquire substantive competence in biomedical engineering and biology. The program builds upon a strong base of biology, mathematics, physics, chemistry and engineering science to develop a clinically oriented biomedical engineer to serve in community medicine. It includes a core of standard electrical engineering courses as well as courses and laboratories in biomedical engineering, anatomy, physiology and biology. Elective units are available in the senior year to explore individual areas of interest.

Laboratory facilities in the field of biomedical engineering are available in engineering and laboratory facilities for anatomy and physiology are available in biology. The campus computer center plus laboratory computer systems are available to simulate biological systems and to collect, process and display physiological data.

In addition to any other all-university requirements regarding grade point averages for graduation, a biomedical engineering student must achieve a minimum 2.0 average in all electrical engineering and biology courses attempted. Any student receiving a D or an F in E.E. 210 must repeat the course in consecutive semesters until a grade of C or better is earned.

Computer Science and Engineering Option

The Electrical Engineering Department offers an option in computer science and engineering which allows the student to acquire substantive competence in computer sciences and related fields, similar in content to that acquired in a typical computer science department. The program builds upon a strong base of mathematics, physics and engineering science. It includes a core of standard electrical engineering courses as well as courses in digital systems and circuitry, programming languages and computer applications. Opportunity to explore a particular area of interest is provided by elective units in the senior year.

In addition to any other all-university requirements regarding grade point averages for graduation, a computer science and engineering student receiving a D or an F in E.E. 210 must repeat the course in consecutive semesters until a grade of C or better is earned.

Electrical Engineering Option

The option in electrical engineering is designed to prepare graduates for responsible engineering positions in design, development, research, applications and operation in the field of electronic circuits, physical electronics, electromagnetics, underwater acoustics and instrumentation and information theory. The curriculum is built around a strong basic core of mathematics, physics, and engineering science. This is followed by basic courses in electrical engineering. Opportunity to explore a particular area of interest and to provide a wide background in the field of engineering electronics is provided in the senior year by a choice of elective units.

Laboratory facilities in the field of electrical engineering are available in the engineering building and include basic as well as more advanced electronic laboratory instruction, control systems laboratory and electric machinery laboratory.

In addition to any other all-university requirements regarding grade point averages for graduation, an electrical engineering student must achieve a minimum 2.0 average in all electrical engineering courses attempted. Any student receiving a D or an F in E.E. 210 must repeat the course in consecutive semesters until a grade of C or better is earned.

Ocean Engineering Option

Administered by the Electrical Engineering Department, the ocean engineering option program is designed to provide students with two basic skill categories; one, competence in one of the three basic engineering disciplines (civil, electrical or mechanical) and two, an understanding of the ocean environment and knowledge of the drastic effects this environment can have upon engineering endeavors. The curriculum is built around a strong basic core of mathematics, physics and engineering science. This is followed by more advanced courses in electronics, analytical mechanics, fluid mechanics, thermodynamics, materials and corrosion, ocean environment and underwater systems. A wide choice of elective units permits a degree of specialization in a traditional discipline, plus further exploration into ocean-related academic areas.

Laboratory facilities consist of a 40-foot research vessel operated by the School of Engineering, a larger ocean going ship available to the ocean engineering students, plus an inventory of modern electronic and acoustic systems and ocean measurement instruments for study and experience afloat.

This University is a member of the Southern California Ocean Studies Consortium of The California State University and Colleges system.

Bachelor of Science Degree in Engineering

Biomedical Engineering Option (code 3-4336)

Lower Division: M.E. 172, 273; Physics 151, 152, 153; Mathematics 122, 123, 224; Chemistry 111A; E.E. 101, 140, 210, 210L, 241; Biology 208, 209.

Upper Division: Economics 300; Mathematics 370A; C.E. 301, 406; M.E. 330; E.E. 310, 320, 330, 330L, 341, 370, 370L, 406, 406L, 407, 433, 433L, 440, 445, 480, 490; Biology 441, 446; approved electives to total 132 units.

Computer Science and Engineering Option (code 3-4327)

Lower Division: M.E. 172; Mathematics 122, 123, 224; Chemistry 111A; Physics, 151, 152; E.E. 101, 140, 210, 241.

Upper Division: Economics 300; Mathematics 346, 370A, 425; E.E. 310, 340, 341, 345, 370, 370L, 440, 441, 442, 444, 445, 448, 480, 494; approved electives to total 132 units.

Electrical Engineering Option (code 3-4330)

Lower Division: M.E. 172, 273; Mathematics 122, 123, 224; Chemistry 111A; Physics 151, 152, 153; E.E. 101, 140, 210, 210L, 241.

Upper Division: Economics 300; Mathematics 370A; C.E. 301, 406; M.E. 330, 331, 371; E.E. 310, 320, 330, 330L, 341, 350, 350L, 370, 370L, 410, 433, 433L, 462; approved electives to total 132 units.

Ocean Engineering Option (code 3-4358)

Lower Division: M.E. 172, 273; Mathematics 122, 123, 224; Chemistry 111A; Physics 151, 152, and approved science elective; E.E. 101, 140, 210, 210L, 265.

Upper Division: Mathematics 370A; Geology 465; C.E. 301, 335, 336, 406; E.E. 310, 330, 330L, 365, 366, 425; M.E. 330, 331, 371, 373, 426, 434; Economics 300; approved electives to total 132 units.

Master of Science Degree in Electrical Engineering

A program of study leading to the master of science degree in electrical engineering is offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

101. Introduction to Electrical Engineering and Computer Science (3) F, S
Faculty

Prerequisite or co-requisite: Mathematics 122. Basic topics in combinational switching circuits and digital computers at a level suitable for beginning scientifically minded students. (Lecture-problems 3 hours.)

140. Computer Methods I (2) F, S Paal, Faculty

The FORTRAN language for digital computers, programming and applications to problems. (Lecture-problems 1 hour, laboratory 3 hours.)

200. Computers for Fun (3) On demand Faculty

An enthusiastic non-technical examination of digital computers. The course emphasizes their use and application and is intended for non-engineering majors. (Lecture-discussion 3 hours.)

202. Introduction to Technology for Non-Engineers (3) On demand Paal
Survey of the achievements, methods and goals of contemporary technology. Not open to students majoring in engineering. (Lecture-discussion 3 hours.)

210. Electric Circuits I (3) F, S Winchell, Faculty
Prerequisites: Physics 152, Mathematics 224. Linear circuit analysis techniques including Kirchhoff's laws, Network Theorems, Mesh and nodal analysis. Resonance, transformers and balanced 3 phase systems. (Lecture-problems 3 hours.)

210L. Electric Circuits I Laboratory (1) F, S Winchell
Prerequisite: E.E. 210. Laboratory study of electric and electronic circuits and instrumentation. Introduction to transformers and rotating machinery. (Laboratory 3 hours.)

241. Computer Methods II (2) F, S Paal, Faculty
Prerequisite: E.E. 140. Application of digital computers to the solution of engineering and scientific numerical problems. Introduction to BASIC and to on line computation. (Lecture-problems 2 hours.)

265. Engineering in an Ocean Environment (3) F, S Kendall, Faculty
Study of problems involved in engineering ventures in, on and under the ocean. Environmental considerations at the coastal interface and engineering contributions to development and use of ocean resources. (Lecture-problems 3 hours.)

Upper Division

310. Electric Circuits II (3) F, S Winchell, Faculty
Prerequisites: E.E. 210, Mathematics 370A. Continuation of circuit analysis including Fourier series, Fourier and Laplace transform techniques. (Lecture-problems 3 hours.)

311. Electric Circuits and Electronics (3) On demand Faculty
Prerequisites: Mathematics 224, Physics 152. Analysis of electric and electronic circuits with emphasis on applications. Not open to electrical engineering majors. (Lecture-problems 2 hours, laboratory 3 hours.)

320. Solid State Electronic Devices (3) F, S Houde, Faculty
Prerequisites: Mathematics 370A, Physics 152. Introduction to solid state electronic devices: diodes, transistors, lasers, micro-electronics. (Lecture-problems 3 hours.)

330. Engineering Electronics I (3) F, S Evans, Faculty
Prerequisite: E.E. 210. Analysis and design of diodes and transistor circuits. (Lecture-problems 3 hours.)

330L. Engineering Electronics I Laboratory (1) F, S Evans, Faculty
Prerequisite: E.E. 210L. Transistor circuits and systems design laboratory. (Laboratory 3 hours.)

340. Programming Languages and Systems I (3) F Carissimo, Faculty
Prerequisite: E.E. 140. Basic digital computer structure. Introduction to machine and assembly language programming. Data structures, searching and sorting algorithms. (Lecture-problems 3 hours.)

341. Computer Methods III (2) F, S Paal, Faculty
Prerequisites: E.E. 241, Mathematics 370A. Continuation of applications of computers to the solution of engineering and scientific numerical problems. (Lecture-problems 2 hours.)

345. Computers' Role in Today's Society (3) F, S Carissimo, Faculty
Study of the impact of computer technology on contemporary society. Introduction to the technology: hardware and software. Perceptions of computers. Applications surveyed in various areas. Artificial intelligence and future implications. (Lecture-problems 3 hours.)

347. Computers in Decision-Making (3) On demand Carissimo, Faculty
Structure and consequences of computer models of complex systems, with particular applications to decision-making processes. Computer simulation experience and examples requiring no previous computer background. (Lecture-problems 3 hours.)

350. Energy Conversion (3) F, S Valdez, Faculty
Prerequisite: E.E. 310. Analysis of electromechanical energy conversion devices. (Lecture-problems 3 hours.)

350L. Energy Conversion Laboratory (1) F, S Valdez, Faculty
Co-requisite: E.E. 350. Laboratory study of electromechanical devices, transformers and rotating machinery. (Laboratory 3 hours.)

365. Ocean Engineering I (3) F Kendall, Faculty
Prerequisite: E.E. 265 or consent of instructor. Principal aspects of the technology of ocean engineering. Theory and problems relating to physical ocean features, sea motion, oceanographic instrumentation, underwater tools and manipulators, marine corrosion, boring and fouling, materials for marine use. (Lecture-problems 3 hours.)

366. Ocean Engineering II (3) S Kendall, Faculty
Prerequisite: E.E. 265 or consent of instructor. Major elements in ocean engineering. Theory and problems relating to ship characteristics, advanced ocean interface vehicles, introductory to naval architecture, design of underwater vehicles, buoys and buoy systems, ship handling and seamanship. Analysis of current developments in ocean and underwater engineering. (Lecture-problems 3 hours.)

370. Control Systems I (3) F, S Stefani, Faculty
Prerequisite: E.E. 310. Principles of analysis block diagrams and signal flow graphs, stability criteria, application to classical control systems design. (Lecture-problems 3 hours.)

370L. Control Systems I Laboratory (1) F, S Jordanides, Faculty
Prerequisite or co-requisite: E.E. 370. Laboratory study of classical control systems. (Laboratory 3 hours.)

385. Communications Systems (3) On demand Hostetter
Prerequisite: E.E. 310. Introduction to the principles of functional communication systems design and performance analysis. Modulation techniques, channel characteristics and noise. (Lecture-problems 3 hours.)

401. Electrical Engineering Problems (3) F, S Hostetter, Faculty
Prerequisite: Mathematics 370A. Co-requisite: E.E. 310. Analytic techniques relevant to electrical engineering. (Lecture-problems 3 hours.)

405. Special Topics in Electrical Engineering (3) On demand Faculty
Prerequisite: Senior standing in electrical engineering or consent of instructor. Selected topics from recent advances in electrical engineering. Course content will vary from year to year and may be repeated once for credit with the consent of the department. Specific topic will be recorded on the student's transcript. (Lecture-problems 3 hours.)

406. Biomedical Engineering (3) F Schwartz, Faculty
Prerequisite: Senior standing in engineering, natural science or nursing. Application and design of medical electronic instruments and automated systems. (Lecture-problems 3 hours.)

406L. Biomedical Engineering Laboratory (1) F Schwartz, Faculty
Prerequisite: Senior standing in engineering or consent of instructor. Laboratory study of medical instrumentation, transducers and computer data processing. (Laboratory 3 hours.)

407. Computers in Medicine (3) S Schwartz, Faculty
Prerequisite: Senior standing in engineering, natural science or nursing. Principles of analysis and design for computers and data collection equipment for real time, on line medical systems. (Lecture-problems 3 hours.)

408. Engineering Applications in Health Care Delivery (3) On demand Schwartz, Faculty
Prerequisite: Senior standing in engineering or consent of instructor. Biomedical engineering aspects of patient care through applications of technological systems and the administrative management of health care delivery. (Lecture-problems 3 hours.)

410. Electric Circuits III (3) F, S Lindquist, Faculty
Prerequisite: E.E. 310. Signal and spectrum analysis, one-port and two-port network theory, introduction to network synthesis and filter design. (Lecture-problems 3 hours.)

420. Microelectronics (3) On demand Houde, Faculty
Prerequisite: E.E. 320 or M.E. 322. Electrical properties and characteristics of materials which comprise engineering devices and systems. Microelectronics. Thin film hybrid microelectronics. Thick film hybrids. (Lecture-problems 3 hours.)

420L. Microelectronics Laboratory (1) On demand Houde, Faculty
Co-requisite: E.E. 420. Laboratory experience in the design and building of thin film hybrid microelectronic circuits. (Laboratory 3 hours.)

425. Underwater Instrumentation Systems (3) On demand Kendall, Faculty
Prerequisite: E.E. 433 or E.E. 370. Analysis of underwater instrumentation systems; with emphasis on sensing techniques, readout methods, calibration and dependability. (Lecture-problems 3 hours.)

425L. Underwater Instrumentation Laboratory (1) On demand Kendall, Faculty
Co-requisite: E.E. 425. Laboratory study and analysis of underwater instrumentation systems, with emphasis on sensing techniques, readout, calibration, placement and retrieval. Laboratory demonstration of instruments and handling equipment. (Laboratory 3 hours.)

431. Engineering Digital Electronics (3) On demand Evans, Faculty
Prerequisite: E.E. 310, 330. Analysis of discrete and integrated circuits for pulse timing and switching waveforms. (Lecture-problems 3 hours.)

431L. Engineering Digital Electronics Laboratory (1) On demand Schwartz, Faculty
Co-requisite: E.E. 431. Laboratory study of wave shaping, non-linear waveform generation and logic circuits. (Laboratory 3 hours.)

432. Linear Integrated Circuit Electronics (3) On demand Lindquist
Prerequisites: E.E. 330, 330L, 370. Analysis and design of operational amplifiers and other linear integrated circuits and systems. (Lecture-problems 3 hours.)

432L. Linear Integrated Circuit Electronics Laboratory (1) On demand Faculty
Co-requisite or prerequisite: E.E. 432. Laboratory study of semi-conductor devices and circuits. (Laboratory 3 hours.)

433. Engineering Electronics II (3) F, S Lindquist, Faculty
Prerequisites: E.E. 330, 330L, 370. Advanced analysis and design of transistor circuits and systems. (Lecture-problems 3 hours.)

433L. Engineering Electronics II Laboratory (1) F, S Savant, Faculty
Co-requisite: E.E. 433. Advanced transistor circuits and systems design laboratory. (Laboratory 3 hours.)

440. Logical Design of Digital Computers (3) F, S Lane, Faculty
Prerequisite: E.E. 101 or consent of instructor. Boolean algebra and minimization of logical expressions. Logic technologies. Sequential logic circuits. Introduction to computer organization. (Lecture-problems 3 hours.)

441. Computer Applications in Electrical Engineering (3) S Paal, Faculty
Prerequisite: E.E. 341. Advanced numerical methods applied to engineering problems not readily solvable by analytical methods. Ordinary differential equations, partial differential equations, eigenvalues, simulation. Introduction to APL. (Lecture-problems 3 hours.)

442. Programming Languages and Systems II (3) S Carissimo, Faculty
Prerequisite: E.E. 340. Advanced machine and assembly language programming. Operating systems analysis and design. (Lecture-problems 2 hours, laboratory 3 hours.)

444. Compiler Construction (3) F, S Lane, Faculty
Prerequisite: E.E. 340 or Mathematics 325. Syntax directed compiler study. Organization of a compiler and overall design: parsing, semantic analysis, optimization and code generation. (Lecture-problems 3 hours.)

445. Digital Subsystems and Systems (3) F Schwartz, Faculty
Prerequisites: E.E. 340, 440. Hardware and software design of minicomputers, microprocessors and emulators. Interfacing of digital peripheral subsystems. Use of machine language, assembly language and utility routines. (Lecture-problems 3 hours.)

446. Computer Architecture (3) On demand Lane, Faculty
Prerequisite: E.E. 140. Introduction to computer organization and design. Machine language programming. Arithmetic and logic operations. Memory and input/output organizations. Studies of some representative computer systems. (Lecture-problems 3 hours.)

448. Microprocessors and Applications (3) On demand Evans, Faculty
Prerequisite: E.E. 101 or consent of instructor. Comparison of available microprocessors and microcomputer elements for application of these devices to practical problems in industry. Design of microprocessor-based systems, including hardware details and programming considerations. (Lecture-problems 3 hours.)

452. Industrial Power Practices (3) F Valdez, Faculty
Prerequisite: E.E. 350. Electrical design. Illumination. Motor installation, protection and control. Panels and switchgear. Plans and specifications. (Lecture-problems 3 hours.)

452L. Power Systems Laboratory (1) On demand Valdez, Faculty
Advanced topics on electrical machinery. Motor characteristics. Motor control. Starters and contactors. Power factor correction. Parallel operation of generators. (Laboratory 3 hours.)

453. Power Systems Analysis (3) S Valdez, Faculty
Prerequisite: E.E. 350. Power systems in the steady state, short circuit calculations, equipment characteristics. Not open to students with credit in E.E. 451. (Lecture-problems 3 hours.)

460. Guided Waves and Antennas (3) On demand Ferguson, Faculty
Prerequisite: E.E. 462. Propagation of plane and guided wave in lossless and dissipative media; radiation and antenna design. (Lecture-problems 3 hours.)

462. Electrical Engineering Fields (3) F, S Evans, Faculty
Prerequisite: E.E. 320. Electric and magnetic field theory including transmission lines, wave guides and antennas. (Lecture-problems 3 hours.)

463. Principles of Naval Architecture I (3) On demand Kendall, Faculty
Basic principles and design calculations in naval architecture; terminology, hull form geometry, buoyancy, stability, trim, stability in damage condition, load line and tonnage rules and introduction to design of hull structures. (Lecture-problems 3 hours.)

464. Principles of Naval Architecture II (3) On demand Kendall, Faculty
Prerequisite: E.E. 463. Fundamentals of the resistance and propulsion of ships, including theory of model testing. Theory and practice of propellor design. Fundamentals of ship maneuvering and control behavior of ships in waves. (Lecture-problems 3 hours.)

465. Underwater Sonics (3) F Kendall, Faculty
Prerequisite: Upper division standing or consent of instructor. Analysis of distributed parameter systems; wave generation, propagation and detection. Application to transmission media and waves in liquids and solids. (Lecture-problems 3 hours.)

465L. Ocean Engineering Laboratory (1) F Kendall, Faculty
Prerequisite: Consent of instructor. Working experience at sea on vessel *Tovan* or *Nautilus*. Operation of various acoustic systems, ocean instruments, radar and navigation devices. Same experiments ashore in wave tank and corrosion test chamber. (Laboratory 3 hours.)

467. Current Developments in Ocean Engineering (3) On demand Kendall
Prerequisite: Upper division standing. Study of ocean engineering developments and ocean environmental problems as they occur. Analysis of real and hypothetical ocean systems design projects. Current events in the field will be used to illustrate and amplify realistic design experience for the student. (Lecture-problems 3 hours.)

468. Basic Ship Design (3) On demand Kendall, Faculty
Prerequisite: E.E. 464 or consent of instructor. An interdisciplinary approach to the preliminary ship design process. Treats both naval and commercial ship types and is applicable to other vessels such as drillships, tugs, research ships, etc. Topics include overview of ship types, definition of design objectives, methods of optimization, estimation of propulsion and auxiliary power requirements, estimation of weight, stability analysis, sea-keeping, power plant selection and design intermodal cargo systems and estimation of capital and operating costs. (Lecture-problems 3 hours.)

471. Control Systems II (3) F, S Stefani, Faculty
Prerequisites: E.E. 370, 370L. Advanced classical control methods: compensators, root locus, describing functions. Introductory modern controls: state space descriptions, stability, canonical forms, controllability, observability, controller configurations. (Lecture-problems 3 hours.)

471L. Control Systems II Laboratory (1) F, S Stefani, Faculty
Prerequisites: E.E. 370, 370L. Analog and digital studies related to advanced classical methods and introductory modern controls. (Laboratory 3 hours.)

480. Engineering Probability and Statistics (3) F, S Arnett, Schwartz, Faculty
Prerequisite: E.E. 310. Introduction to probability, statistics, random variables and their application. (Lecture-problems 3 hours.)

482. Communication Theory (3) F, S Cain, Faculty
Prerequisites: E.E. 310, 330. Modern theory of communication with emphasis on noise processes and their effect on transmission of information. (Lecture-problems 3 hours.)

490. Special Problems (1-3) F, S Faculty
Prerequisite: Consent of instructor. Assigned topics in technical literature or laboratory projects and reports on same. May be repeated for a total of six units.

494. Proseminar in Computer Science (3) On demand Faculty
Intensive study of selected conceptual and theoretical problems in computer science.

Graduate Division

505. Analytical Methods in Engineering (3)

510. Linear Network Synthesis (3)

511. Active Network Synthesis (3)

520. Physical Electronics I (3)

530. Semi-Conductor Circuit Design (3)

540. Digital Computer System Analysis (3)

541. Computer Arithmetic Unit Design (3)

545. Advanced Engineering Applications of Digital Computers (3)

560. Applied Electromagnetic Theory (3)

565. Underwater Acoustics (3)

566. Underwater Detection Systems (3)

570. Advanced Control Systems I (3)

571. Advanced Control Systems II (3)

572. Systems Analysis and Optimization (3)

582. Communication Systems (3)

583. Decision Theory (3)

590. Special Topics in Electrical Engineering (3)

610. Seminar in Network Theory (3)

630. Seminar in Electrical Circuit Design (3)

640. Seminar in Digital Computer Systems (3)

670. Seminar in Control Systems (3)

697. Directed Research (1-3)

698. Thesis (2-4)

Mechanical Engineering

Department Chair: Dr. Hillar Unt.

Emeriti: Ernest G. Brind, Richard W. Leutwiler, Jr., Herluf P. Nielsen.

Professors: Cebeci, deSoto, Dyer, Edelman, Gilpin, Kyle, Miller, Potter, Roman, Sungu, Torby, Tsao, Unt.

Associate Professors: Kellam, Kundis, Mijares, VanderMeyden.

Adjunct Professors: Dr. Richard R. Gold, Dr. Lawrence L. Kavanau, Dr. Louis Raymond.

Industrial-Management Engineering Coordinator: Dr. James L. Dyer.

Materials Engineering Coordinator: Dr. C. Barclay Gilpin.

Certificate in Industrial Plastics Processing and Design Director: Dr. Edward Miller.

Academic Advising Coordinator: Mr. Ernest R. Mijares.

Materials Engineering Option

Modern engineering applications in all fields require new materials with properties well beyond those obtainable with the alloys available several years ago. New materials are needed for such diverse applications as the supersonic air transports, undersea deep submergence vessels, magnetic tapes and semiconducting devices. Scientific knowledge in this area has expanded recently at a rate comparable to that experienced by the field of electronics, and the materials option is offered to meet the demand for materials oriented engineers.

Course work is directed toward the understanding of the properties of materials in terms of their atomic structure, and emphasis is placed on the behavior of materials in engineering applications. The laboratories have excellent equipment for studies in this field and include facilities for the determination of crystal structure, microscopic and X-ray diffraction examination of solids, thermal and mechanical treatment and the determination of properties at low and high temperatures.

Industrial-Management Engineering Option

This is an interdisciplinary degree in which both the Schools of Business Administration and Engineering provide courses which will enable the student to have a technical engineering background plus a good foundation in business and management practices. The option consists of the core engineering courses through the junior year with an addition of business courses in accounting, business law, management, inventory practices and operations research. The elective structure within this option is such that the student may specialize in either engineering, business or a combination of both.

Mechanical Engineering Option

The realm of mechanical engineering is so extensive that training must be broad and basic, providing grounding in fundamentals which an engineer requires in order to gain competence in any specialized field. In view of this, the curriculum in mechanical engineering includes ample foundation courses in mathematics, physics, chemistry, and graphics. These are followed by courses in energy conversion, thermodynamics, fluid mechanics, mechanics and strength of materials, metallurgy, and design. Opportunity to explore further a particular area of interest is provided by elective units in the senior year.

The laboratories of the department are provided with modern equipment for undergraduate instruction in the following areas: instruments and measurements, fuels and lubricants, materials and metallurgy, thermodynamics and heat power, vibration and design, acoustics.

Industry sponsored scholarships are available to upper division mechanical engineering students. Participating industries that contribute scholarships are the Alcoa Foundation, Getty Oil Company, Union Oil Company of California Foundation, Shell Companies Foundation and THUMS. Further information is available in the department office.

Materials Engineering Option (code 3-4352)

Lower Division: M.E. 101, 172, 205, 222, 272; C.E. 205; E.E. 210, 210L; Mathematics 122, 123, 224; Chemistry 111A; Physics 151, 152, and a natural science course with a laboratory or M.E. 221.

Upper Division: M.E. 322, 323, 330, 371, 373, 374, 375, 421, 423, 425, 427, 436, 459; E.E. 420; C.E. 406; Chemistry 371A; Economics 300; Mathematics 370A; approved electives to total 132 units.

Industrial Management Option (code 3-4342)

Lower Division: M.E. 101, 172, 205, 222; C.E. 205; E.E. 210, 210L; Mathematics 122, 123, 224; Accounting 202; Finance 222; Chemistry 111A; Physics 151, 152, and a natural science course with a laboratory or M.E. 221.

Upper Division: M.E. 330, 331, 371, 373, 390, 459, 490; C.E. 406; E.E. 310, 370, 370L; Mathematics 370A; Economics 300; Finance 324; Management 300, 402; Quantitative Systems 445, 460; and approved electives to total 132 units.

Mechanical Engineering Option (code 3-4350)

Lower Division: M.E. 101, 172, 205, 222, 272; C.E. 205; E.E. 210, 210L; Mathematics 122, 123, 224; Chemistry 111A; Physics 151, 152, and a natural science course with a laboratory or M.E. 221.

Upper Division: M.E. 305, 322, 323, 330, 331, 336, 337, 371, 373, 374, 375, 459, 471, 472; C.E. 335, 336, 406; E.E. 310, 370, 370L; Mathematics 370A; Economics 300; approved electives to total 132 units one of which must be a mechanical engineering lecture-laboratory or design-laboratory course.

Certificate in Industrial Plastics Processing and Design

Director: E. Miller.

Professors: J. L. Dyer, Ph.D.; W. E. Edelman, Ph.D.; C. B. Gilpin, Ph.D.; E. Miller, D. Engr. Sci.; H. Unt, Ph.D.

Associate Professor: G. Trusty, Ph.D.

The Certificate Program in Industrial Plastics Processing and Design is an interdisciplinary program sponsored by the Industrial Education, Mechanical Engineering and Chemical Engineering Departments. For additional information and requirements refer to the Industrial Education Department.

Master of Science Degree in Mechanical Engineering

A program of study leading to the master of science degree in mechanical engineering is offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

101. Introduction to Engineering and Engineering Design (1) F, S Gilpin, Miller
Elementary application of engineering methods to case histories. Same course as Civil Engineering 101. (Lecture-problems 1 hour.)

172. Engineering Design Graphics I (3) F, S Kundis
Principles of graphical expression through sketching, instrumental drawing, orthographic projection, auxiliary views, dimensions, working drawings. Descriptive geometry; methods of points, lines, planes, warped surfaces, intersections and development. Elementary creative design. (Lecture-laboratory 6 hours.)

200. Impact of Technology on Society (3) F, S deSoto
Study of the interaction between man, society, engineering and science. Philosophical viewpoints of anthropology and engineering will be used as starting points. Guest lecturers from disciplines associated with the study of man will be used. Divergent views will be explored in structured and unstructured discussion. (Lecture-discussion 3 hours.)

205. Computer Methods in Mechanical Engineering (2) F, S Faculty
Prerequisites: Mathematics 122, Physics 151. Digital computer programming with applications to mechanical engineering problems. (Lecture-problems 1 hour, laboratory 3 hours.)

221. Electrochemical Processes in Mechanical Engineering (4) F, S Gilpin, Miller
Prerequisites: Chemistry 111A, Mathematics 122. Heat treating and carburizing atmospheres, corrosion prevention, electroplating and separation, non-mechanical milling and related processes. Thermo-electrics. (Lecture-problems 3 hours, laboratory 3 hours.)

222. Manufacturing Processes (2) F, S Faculty
Prerequisite or co-requisite: M.E. 172. Machines and equipment and processes used in modern manufacturing and fabrication operations, with field trips to industrial plants. (Lecture-problems 2 hours.)

272. Engineering Design Graphics II (2) F, S Kundis
Prerequisite: M.E. 172. Graphical expression with emphasis on sketching, machine drawing, detail and assembly drawing, gears, cams, fastenings, piping, welding. Stress on original design. (Lecture-laboratory 4 hours.)

273. Solid Mechanics for Electrical Engineers (2) F, S Faculty
Prerequisites: Mathematics 122 and Physics 151 or consent of instructor. Statics of particles and rigid bodies, elementary stress analysis. (Lecture-problems 2 hours.)

Upper Division

305. Numerical Methods in Mechanical Engineering (3) F, S Torby, Unt
Prerequisite: M.E. 205. Application of numerical methods to the solution of mechanical engineering problems. Roots of algebraic and transcendental equations. Solution of simultaneous linear algebraic equations. Numerical integration and differentiation. Numerical integration of ordinary differential equations: initial-value problems, boundary-value problems. Partial differential equations. (Lecture-problems 3 hours.)

322. Engineering Metallurgy I (2) F, S Edelman, Gilpin, Miller
Prerequisite: Chemistry 111A. Structure and properties of crystalline materials, crystal lattices, phase equilibria and transformations, nucleation and grain growth. Effects of heat treatment and mechanical working. (Lecture-problems 2 hours.)

323. Engineering Metallurgy I Laboratory (1) F, S Edelman, Gilpin, Miller
Prerequisite or co-requisite: M.E. 322. Metallographic study of the effects of thermal treatments on the structures and mechanical properties of metals and alloys. (Laboratory 3 hours.)

330. Engineering Thermodynamics I (3) F, S Faculty
Prerequisites: Mathematics 224, Physics 151 and approved chemistry. Co-requisite: M.E. 331. First and second laws of thermodynamics; properties of liquids, gases and vapors; sources of energy and its conversion to work. Introduction to heat transfer and psychrometry. (Lecture-problems 3 hours.)

331. Engineering Thermodynamics I Laboratory (1) F, S Faculty
Co-requisite: M.E. 330. Measurements of thermodynamic properties, fluid flow and heat transfer; calorimetry. (Laboratory 3 hours.)

336. Engineering Thermodynamics II (3) F, S Faculty
Prerequisites: M.E. 330, 331. Co-requisite: M.E. 337. Gas processes; relation of entropy to the second law; gas cycles; vapor cycles; mixtures of gases and vapors. (Lecture-problems 3 hours.)

337. Engineering Thermodynamics II Laboratory (1) F, S Faculty
Co-requisite: M.E. 336. Measurements of energy and power. Testing and evaluation of the performance of thermodynamic equipment. (Laboratory 3 hours.)

371. Analytical Mechanics II (Dynamics) (3) F, S Faculty
Prerequisites: M.E. 172, 205 or equivalent, C.E. 205 or M.E. 273. Newton's Laws, and the principles of work-energy and impulse and momentum applied to the study of particle and rigid body motion. Engineering applications with emphasis on plane motion problems. (Lecture-problems 3 hours.)

373. Mechanics of Deformable Bodies (3) F, S Faculty
Prerequisite: C.E. 205; co-requisite: M.E. 374. Application of the principles of mechanics to design of structural and machine members and connections; stress analysis of beams and columns. Properties and strength of engineering materials. (Lecture-problems 3 hours.)

374. Mechanical Properties of Materials (1) F, S Tsao
Co-requisite: M.E. 373. Laboratory course in the physical and mechanical properties of engineering materials, and the relationship of structure to these properties. (Laboratory 3 hours.)

375. Kinematics and Dynamics of Mechanisms (4) F, S Edelman
Prerequisites: M.E. 222, 272, 322, 371. Fundamentals of linkages, cams, gears and gear trains. Velocity and acceleration analysis of machines. Static and inertia loading of machine parts. Dynamic analysis. (Lecture-problems 3 hours, design application 3 hours.)

390. Design and Reliability I (3) S Dyer
Prerequisites: M.E. 222, Mathematics 224. Introduction to statistics and their application to design reliability, critical element identification and characterization. Incorporation of critical elements into design. (Lecture-problems 3 hours.)

401. Engineering Analysis I (3) F, S Roman, Torby
Prerequisite: Mathematics 370A. Vector analysis, series solutions of differential equations (special functions), boundary value problems and characteristics function representation, partial differential equations, methods of formulating and solving problems in engineering. Same course as Civil Engineering 401. (Lecture-problems 3 hours.)

402. Engineering Analysis II (3) F, S Roman, Torby
Prerequisite: Mathematics 370A. Analysis of mechanical engineering problems by matrix theory and complex variables; introduction to numerical techniques. Same course as Civil Engineering 402. (Lecture-problems 3 hours.)

403. Introduction to Computer Simulation of Mechanical Systems (3) S Torby
Prerequisites: M.E. 305, E.E. 370, 370L. Introduction to simulation and modeling methods of mechanical systems. Simulation languages. Model construction. Computer exercises and examples. (Lecture-problems 3 hours.)

405. Special Topics in Mechanical Engineering (3) On demand Faculty
Prerequisite: Senior standing in mechanical engineering or consent of instructor. Selected topics from recent advances in mechanical engineering. Course content will vary from year to year and may be repeated once for credit with the consent of the department. (Lecture-problems 3 hours.)

410. Steam Plant Design (3) F deSoto
Prerequisite: M.E. 330. Design of boilers, superheaters, condensers and turbines for the production of electrical energy. Application to various plant sizes. (Lecture-problems 3 hours.)

411. Energy Selection and Conversion (3) S Dyer
Prerequisite: M.E. 330. Conversion of thermal to electrical energy, available energy, selection of energy sources, examination of alternative energy sources and resources. (Lecture-problems 3 hours.)

412. Nuclear Power Engineering (3) On demand Dyer
Prerequisite: M.E. 330. Power production by nuclear methods, core engineering, heat transfer, reactor control and safety, fusion systems. (Lecture-problems 3 hours.)

421. Engineering Metallurgy II (3) F Gilpin
Prerequisite: M.E. 322. Properties and uses of structural steels, heat treatable steels, titanium alloys, nickel and cobalt base alloys; refractory metals, ultra high strength steels, stainless steels and metal matrix composite materials. Introduction to designing for fracture resistance. (Lecture-problems 2 hours, laboratory 3 hours.)

423. Crystallography of Metals (3) F Faculty
Prerequisites: Mathematics 224, Chemistry 111A. Perfect and imperfect crystalline states in metals; point, line and aggregate defects, including dislocation defects; preferred orientation, pole figures, ordering. (Lecture-problems 3 hours.)

424. Engineering Principles and Properties of Plastics (3) S Miller
Prerequisite: M.E. 373. Nature of polymers, physical and mechanical properties of plastics. Polymerisation reactions and production. Properties of co-polymers, polymer solutions. Viscoelastic properties of polymerics. (Lecture-problems 3 hours.)

425. Chemical and Electrochemical Manufacturing Processing (3) S Miller
Prerequisites: M.E. 322, 330. Theory of electrochemical processing. Electroplating and electroless plating solutions, processes and equipment. Anodizing and other surface treatments. Carburizing, nitriding atmospheres and equipment. Diffusion in solids. The effect of surface treatments on mechanical properties. (Lecture-problems 3 hours.)

426. Corrosion Engineering (3) S Gilpin
Prerequisite: M.E. 322. Principles of oxide film growth and electrochemical corrosion, corrosion testing, environmental and metallurgical effects on corrosion, environmental stress crackling, corrosion control and prevention. (Lecture-problems 3 hours.)

427. Metallurgical Manufacturing Processes (3) F Faculty
Prerequisite: M.E. 322. Elements of theory of plasticity, forging, rolling, extrusion, rod and tube drawing and sheet forming. (Lecture-problems 3 hours.)

431. Heat Transfer (3) F, S deSoto
Prerequisites: M.E. 330, C.E. 335, Mathematics 370A. Principles of heat transfer by conduction, radiation, and convection. Steady state conduction in one, two, or three dimension. Introduction to transient heat flow, mass transfer. (Lecture-problems 2 hours, laboratory 3 hours.)

432. Fluid Machinery (3) On demand Kyle
Prerequisites: M.E. 330, 371; C.E. 335. Design, analysis and selection of pumps, fans, blowers, compressors, turbines, fluid actuators, control and metering devices. The solution of practical engineering problems especially in the area of turbomachinery. Suitable field trips will be taken to observe manufacture and operation of equipment. Laboratory demonstrations will be made of selected items discussed in the course. (Lecture-problems 3 hours.)

434. Ocean Waves and Currents (3) F Kyle
Prerequisites: Mathematics 370A; M.E. 330, 373; C.E. 335. Mechanics of surface wave motion, tides, currents, shore processes, effects of waves and currents on marine structures, theory of moorings. (Lecture-problems 3 hours.)

436. Statistical Thermodynamics (3) S Dyer
Prerequisite: M.E. 330 or consent of instructor. Fundamentals of combinatorial analysis, statistical mechanics, independent particles, monoatomic solids, chemical equilibrium studies, collision theory, real gases and liquids. (Lecture-problems 3 hours.)

437. Intermediate Fluid Mechanics (3) S Kyle
Prerequisites: C.E. 335, Mathematics 370A. Dynamics of ideal and real fluids; potential flow, vortex flow; the Navier-Stokes equations; boundary layer theory, turbulence; compressible flows; applications of theory to practical systems involving fluid motion. (Lecture-problems 3 hours.)

438. Air Conditioning and Refrigeration (3) F Sungu
Prerequisite: M.E. 330. Basic concepts in air conditioning psychrometry; calculation of heating and cooling loads in buildings; design of heating and air conditioning systems; principles of refrigeration and cryogenic engineering. (Lecture-problems 3 hours.)

439. Introductory Gas Dynamics (3) F Roman
Prerequisites: M.E. 336, C.E. 335. Basic concepts of gas dynamics. Steady and unsteady compressible flow, basic wave phenomena. (Lecture-problems 3 hours.)

441. Aerodynamics of Vehicles and Structures (3) F Kellam
Prerequisite: C.E. 335. Theoretical and experimental aerodynamics applied to surface and flight vehicles such as automobiles and trains, conventional VTOL and STOL aircraft, parachutes and hang gliders; also applications to buildings, bridges and sailboats. Wind tunnel testing techniques. (Lecture-problems 2 hours, laboratory 3 hours.)

443. Machine Structures (3) S Mijares
Prerequisites: M.E. 305, 373. Application of energy principles to the stress analysis of machine elements. Fundamentals of stiffness and flexibility matrix methods in mechanical structures. Computer applications. (Lecture-problems 3 hours.)

444. Control of Mechanical Systems (3) F Mijares
Prerequisites: E.E. 370, M.E. 371. Derivation of equations of motion for mechanical systems. Design of mechanical elements, with emphasis on linear components, based on stability and transient analysis. (Lecture-problems 3 hours.)

450. Special Problems (1-3) F, S Unt, Faculty
Prerequisite: Senior standing. Assigned topics in technical literature or laboratory projects and reports on same.

459. Professional Practice Seminar (1) F, S Unt
Prerequisite: Senior standing in Industrial-Management, Materials or Mechanical Engineering. Professional practice of engineering, graduate studies, recent developments, ethics, legal requirements, impact of governmental regulations, professional societies. Oral and written presentation of engineering reports.

461. Automotive Engineering (4) S Edelman, Kellam
Prerequisites: M.E. 330, 371, 373 or consent of instructor for non-engineering majors. Analysis and design of automotive equipment. Theoretical and practical aspects of combustion, fuels, power plants, drivetrains, vehicles, performance testing, safety, maintenance and economics. Correlation of design with performance. Laboratory testing will be conducted to verify theoretical developments. (Lecture-problems 3 hours, laboratory 3 hours.)

471. Analysis and Design of Machine Components (3) F, S Faculty
Prerequisites: M.E. 373, 374, 375. Application of the principles of mechanics and physical properties of materials to the proportioning of machine elements, including consideration of function, production and economic factors. (Lecture-problems 2 hours, design application 3 hours.)

472. Design of Mechanical Engineering Systems (3) F, S Edelman
Prerequisites: M.E. 322, 336, 373, 375; C.E. 335. Project approach to mechanical engineering systems design stressing creative and methodical techniques in problem definition, design conception and problem solution. (Lecture-problems 2 hours, laboratory 3 hours.)

473. Dynamics of Engines (3) On demand Faculty
Prerequisite: M.E. 375. Effect of rotating and reciprocating masses in various engine configurations; primary and secondary balancing systems; energy variation in engines; application to other types of machines. (Lecture-problems 3 hours.)

474. Engineering for Production (3) F Edelman
Prerequisite: M.E. 375 or consent of instructor. Engineering and design techniques applied to product design to facilitate producibility. Engineering and design of machines, tools and instruments to facilitate manufacturing, assembly, testing and inspection of products. Introduction to value engineering. (Lecture-problems 3 hours.)

475. Analytical Mechanics III. Particle and Rigid Body Mechanics (3) F Mijares, Torby
Prerequisites: M.E. 371, Mathematics 370A. Detailed study of particle and rigid body mechanics using vector methods and three dimensional analysis emphasizing vibrating systems, planetary and satellite motions, variable mass, the gyroscope and gyrocompass. (Lecture-problems 3 hours.)

476. Engineering Vibrations I (3) S Unt
Prerequisites: M.E. 371, Mathematics 370A. Introduction to fundamentals of mechanical vibrations, types of oscillatory motions. Free, forced and transient vibrations; damping, vibration isolation, vibration measuring instruments. Coupled oscillations of lumped systems; use of Lagrange's equations; Rayleigh and matrix iteration method. (Lecture-problems 2 hours, laboratory 3 hours.)

477. Advanced Mechanics of Deformable Bodies (3) F, S Tsao
Prerequisites: M.E. 373, 374. Stress concentration; photoelastic method of stress analysis. Failure theories. Fatigue. Flexure and shear of unsymmetrical sections; shear center. Deformations beyond the elastic limit. Energy methods; Castigliano's theorem. (Lecture-problems 3 hours.)

479. Engineering Acoustics (3) F Kellam, Unt
Prerequisites: Mathematics 370A, E.E. 310, M.E. 371. Theory and application of acoustical principles to generation, transmission, measurement and control of sound. (Lecture-problems 2 hours, laboratory 3 hours.)

490. Design and Reliability II (3) F Dyer
Prerequisite: M.E. 390 or consent of instructor. Application of reliability concepts to engineering design, component modes of failure and system reliability. Design analysis of failure modes and life time. Case study of design application. (Lecture-problems 2 hours, design laboratory 3 hours.)

Graduate Division

501. Advanced Engineering Analysis (3)

521. Advanced Materials Engineering (3)

522. Fracture of Engineering Materials (3)

531. Heat and Mass Transfer (3)

532. Mechanics of Ideal Fluids (3)

533. Mechanics of Real Fluids (3)

536. Analytical Thermodynamics (3)

537. Gas Dynamics (3)

541. Advanced Aerodynamics of Vehicles and Structures (3)

543. Advanced Aircraft and Missile Structures (3)

544. Biomedical Applications in Mechanical Engineering (3)

571A-B. Random and Nonlinear Vibrations (3,3)

572. Stress Analysis in Design (3)

573. Theory of Elasticity (3)

574. Advanced Design in Mechanical Engineering (3)

576. Engineering Vibrations II (3)

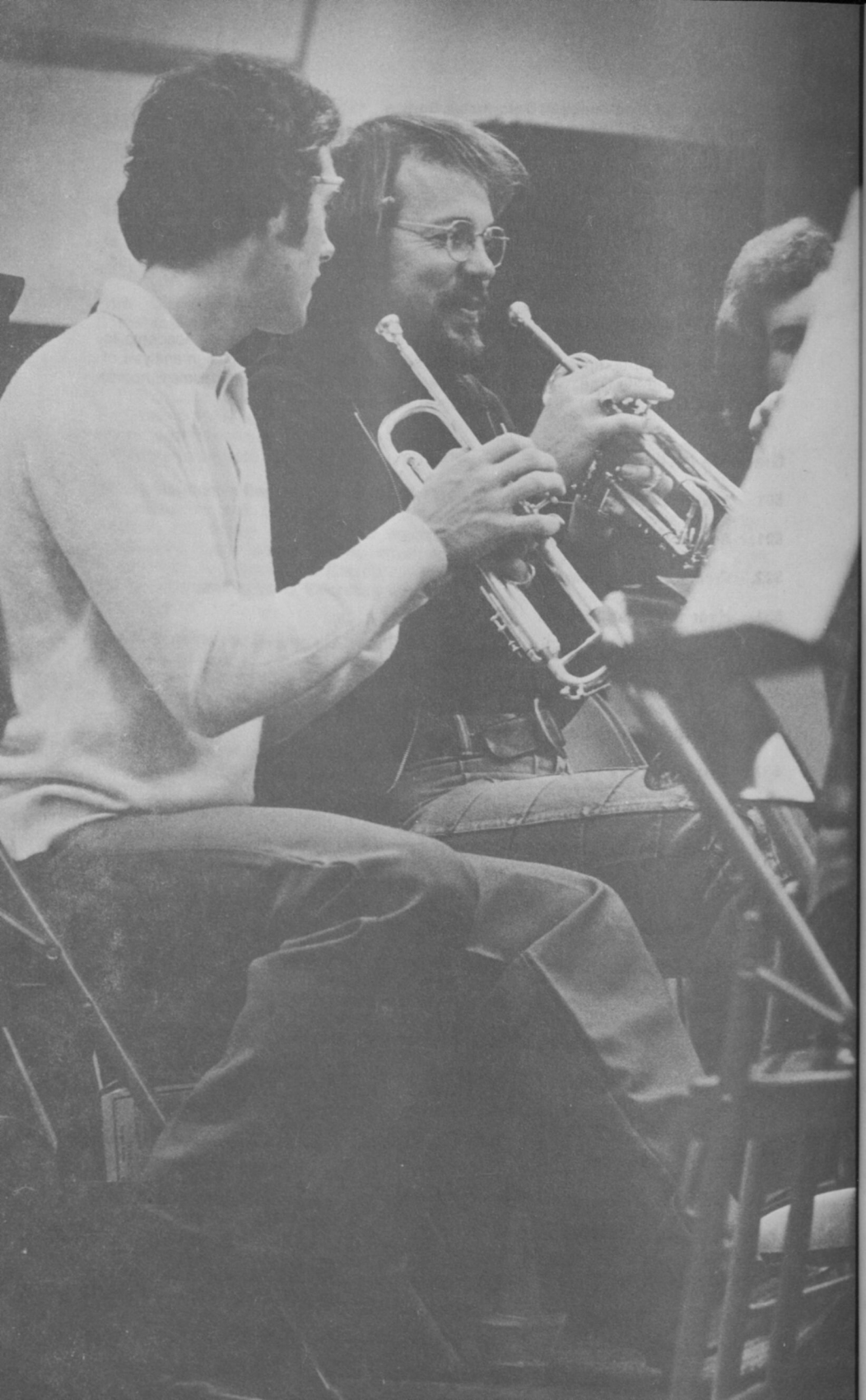
577. Creep and Fatigue (3)

691. Directed Studies (1-3)

695. Seminar in Mechanical Engineering (3)

697. Directed Research (1-3)

698. Thesis (1-6)



School of Fine Arts

Administrative Officers

Dean of the School	Mr. John R. Watts	Fine Arts Bldg.
Associate Dean		Fine Arts Bldg.
Administrative Assistant	Mrs. Sue T. Elliott	Fine Arts Bldg.

Directory of Departments

Department	*Chair*	*Dept. Offices*
Art	Dr. Howard G. Hitchcock	FA4-106
Dance	Ms. Pat Finot	FO4-270
Music	Dr. Gerald Daniel	MU-104
Theatre Arts	Mr. Ralph Duckwall	TA-221

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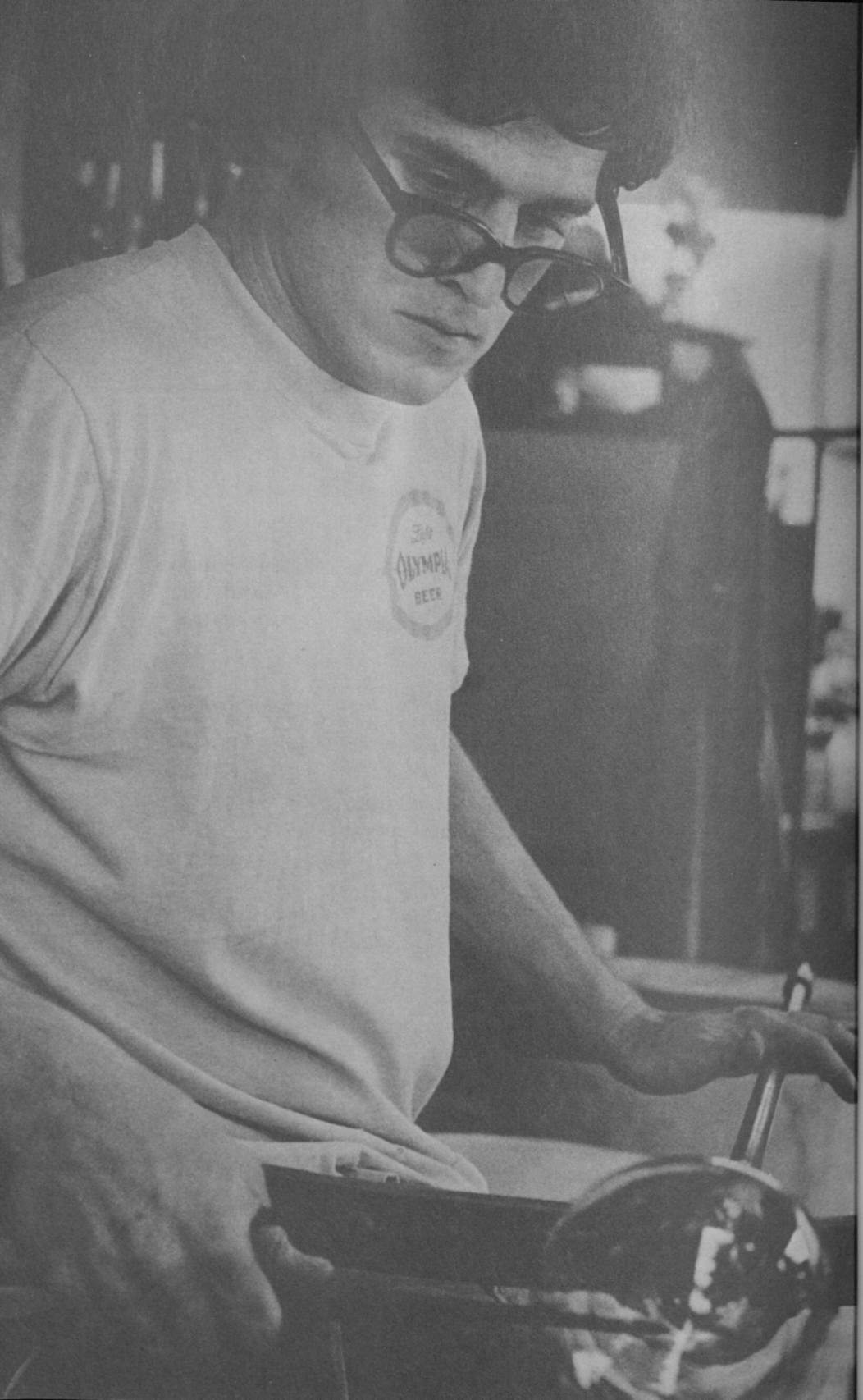

Art

Department Chair: Dr. Howard G. Hitchcock.

Emeriti: Bela L. Biro, Maxine Merlino, Josephine Schultz.

Professors: Aall, Archer, Borders, Brisker, Click, Cooper, Crafts, Dillingham, Ferreira, K. Glenn, Graff, Gross, Hitchcock, Kammermeyer, Krause, Leland, Lieberman, Martin, Moryl, Muller-Stach, Oden, Ramsey, Shaak, Swift, C. Thompson, Turnbull, Tyrnauer, Van Eimeren, Wallin, Werlick, Youry.

Associate Professors: Cummings, Dame, de Heras, Dukes, Lincoln, Martel, Myers, Pine, Purcell, Slayman Jones, Snidecor.

Assistant Professors: C. Glenn, Gibbar, Greer, Mendez, Osborne, Yates.

Lecturers: Boston, Brown, Jenkins, Oda, Shechter, Visgatis.

Director, University Galleries: Constance Glenn.

Adjunct Professors: Marcia S. Weisman; Robert Barrett, Creative Arts Director, Long Beach Recreation Department.

Credential Adviser: Dr. James Crafts.

Academic Advising Coordinator: Mr. John Snidecor.

The Art Department has curricular programs leading to the following degrees: (1) bachelor of arts (general art), (2) bachelor of fine arts, (3) bachelor of arts in art history, (4) bachelor of arts (teacher preparation), (5) bachelor of science in industrial design. The department is also authorized to offer the master of arts degree in art and the master of fine arts degree.

The department is accredited in Division One of the National Association of Schools of Art in recognition of the professional calibre of its programs.

As is customary in most schools, the Art Department reserves the right to keep for a period of up to three years work or projects completed by students for class credit.

In addition to its degree programs, the department offers a Certificate Program in Museum Studies and an interdisciplinary program leading to a Certificate in Biomedical Art.

Major in Art for the Bachelor of Arts Degree (General Art) (code 2-5850)

This program is for students who seek a broad understanding and appreciation of art. Total art units required: 47 (23 lower division, 24 upper division).

Lower Division Requirements: Art 111 or 161, 112A, 112B, 121, 131, 181, 184 and 187.

Upper Division Requirements: A minimum of 24 units of upper division art which must include two courses from each of the following: (1) art history; (2) design; (3) drawing, painting, illustration, printmaking; and (4) crafts, sculpture.

Bachelor of Fine Arts Degree

The bachelor of fine arts degree is offered for the student eventually seeking a master of fine arts degree, the position of a professional artist or designer and the student seeking a career of teaching studio art within a selected specialization. The B.F.A. degree program is a rigorous one, demanding high quality performance in order to develop the professional competence of talented students toward successful entrance into the professional art field. There are nine professionally oriented specialized programs leading to the B.F.A. degree. Total art and support units required: 70 (29 lower division, 41 upper division). Total units for graduation: 132.

Freshmen and sophomores seeking admission to the B.F.A. program must:

1. Meet entrance requirements to the University.
2. Provide a transcript of credits to the Art Department. This is in addition to any transcript submitted to the University Admissions Office.
3. A portfolio is optional at this level. Students who feel they have not yet specialized enough to prepare a portfolio or to demonstrate otherwise their qualification for the B.F.A. program are advised to seek admission to the B.A. program in art. Once in residence, the B.A. student who wishes may take more specialized work and apply at a later date to transfer to the B.F.A. program.

Juniors and seniors seeking admission to the B.F.A. program must:

1. Meet entrance requirements to the University.
2. Submit a portfolio of work to the Art Department.
3. Provide transcripts of all college level credits. This is in addition to any transcript submitted to the University Admissions Office.

For detailed information write the Coordinator, B.F.A. Program, Art Department.

Note: Requests for admission to Art Department programs exceed the capacity to accommodate. Therefore, prospective students are urged to file applications during the initial filing period listed in the "Admission to the University" section of this *Bulletin*.

Programs of Specialization: Course Requirements

Ceramics Option (code 4-5852)

Lower Division: Art 111 or 161, 112A, 112B, 121, 131, 151, 181, 184, 187, 251; Industrial Arts 281 or 282.

Upper Division: Art 320, 351A, 351B, 352A, 352B or 353, 451A, 451B, 499A; Art 416 and six additional units of art history; nine additional units of art outside specialization.

Drawing and Painting Option (code 4-5858)

Lower Division: Art 112A, 112B, 121, 131, 161, 181, 184, 187, 281, 284, 287.

Upper Division: Art 320, 372, 381, 384A, 385A, 387A, 389, 487A, 499K; six units of art history; 12 units of art outside specialization; special emphasis in Drawing and Painting: Intermedia. Upon approval of intermedia faculty, nine units of Art 499T, Intermedia, will be substituted for nine required upper division units in drawing and painting.

Graphic Design Option (code 4-5859)

Lower Division: Art 111 or 161, 112A, 112B, 121, 131, 181, 184, 187, 223, 237, 271.

Upper Division: Art 320, 322A, 322B, 323A, 323B, 422A, 422B, 499S; Art 418 and three additional units of art history; 12 units of art outside graphic design specialization with adviser's approval.

Illustration Option (code 4-5855)

Lower Division: Art 111 or 161, 112A, 112B, 121, 131, 181, 184, 187, 223, 271, 284.

Upper Division: Art 320, 371A, 371B, 372; four units from 373, 385A or 389; 471A, 471B, 499F or 374A; six units of art history; Art 323A, 387A and six additional units outside specialization.

Interior Design Option (code 4-5854)

Lower Division: Art 111 or 161, 112A, 112B, 121, 131, 181, 184, 187, 224, 237, 271.

Upper Division: Art 320, 341A, 341B, 342A, 342B, 343, 441A, 441B, 499H; Art 417 and 418; 11 units of art outside specialization including Art 332 and nine units selected from the following: Art 322A, 327A, 331A, 333A, 344A.

Metalsmithing and Jewelry Option (code 4-5860)

Lower Division: Art 111 or 161, 112A, 112B, 121, 131, 181, 184, 187, 271; Industrial Arts 101, 282.

Upper Division: Art 320, 357A, 358A, 358B, 357B, 458A, 458B, 499J; six units of art history; 12 units of art outside specialization.

Printmaking Option (code 4-5861)

Lower Division: Art 111, 112A, 112B, 121, 131, 181, 184, 187, 277, 161 or 281, Industrial Education 101.

Upper Division: Art 320, 376, 377, 378, 379, 475 and six units selected from Art 477, 478 or 499R; Art 317A, 317B; Art 318, 384A, 384B and four additional units of art outside of specialization.

Sculpture Option (code 4-5862)

Lower Division: Art 112A, 112B, 121, 131, 161, 181, 184, 187, 263, four units of art electives.

Upper Division: Art 320, 361, 362A, 362B, 363, 461, 463, 499M; six units of art history; 12 units of art outside specialization.

Textile Design Option (code 4-5863)

Lower Division: Art 111, 112A, 112B, 121, 131, 181, 184,187; six units selected from 223, 271, 277, 281, 287.

Upper Division: Art 320, 327A, 327B, 328, 428A, 428B, 428C, 499N; Art 418, 419 and three additional units of art history; nine additional units of art outside specialization.

Major in Art for the Bachelor of Arts Degree (Art History) (code 2-5857)

This program is for students who wish to specialize in the study of the history of art. Studio courses and selected courses outside of art are included in order to give breadth to the program.

Lower Division: Art 112A, 112B, 113A, 113B, 121, 181, 111 or 213; three additional units of art studio; six units selected from anthropology, psychology, history or the humanities (other than art) with adviser's approval.

Upper Division: Art 496, three units selected from Art 312, 393A, 393B, 411A, 411B, 411C; three units selected from Art 310, 314A, 314B, 314C, 315A, 315B, 316A, 413A; three units selected from Art 311, 313A, 313B; three units selected from Art 316B, 317A, 317B, 413B, 414; three units selected

from Art 319A, 319B, 494A, 494B; three units selected from Art 415A, 415B, 491, 492; six units selected from upper division studio; six units selected from anthropology, psychology, history or the humanities except art with adviser's approval; three units of art electives.

Major in Art for the Bachelor of Arts Degree (Teacher Preparation) (code 2-5867)

The bachelor of arts (teacher preparation) degree is a four-year art major degree program required of those students seeking a single subject teaching credential in art (K-12) under the Teacher Preparation and Licensing Act of 1970 (Ryan Act).

Lower Division: Art 111, 112A, 112B, 121, 131, 181, 184, 187.

Upper Division: Art 317A or B, and one course selected from Art 319A,B, 393A,B, 411A,B,C, 414, 415A,B, 491, 492, 494A,B. Art 385A and one course other than 385B in drawing or painting or printmaking or illustration. Two courses in design selected from Art 322A, 327A, 331A, 341A, 344A, 347A, 428A. Art 354A and one course in ceramics or jewelry or metalsmithing or sculpture or Structures in Fiber. Art 300 and 407.

The Single Subject Credential in Art requires 30 units of upper division or graduate course work beyond the B.A. However, some or all of the professional education courses and student teaching may be taken in the B.A. program or within the fifth year. These courses are Education Single Subject 300A (recommended for the junior year); English 300; Health Science 411; Secondary Education 310 and 421 or 435 and 436; Education Single Subject 450A; Secondary Education 457, and Education Single Subject 470A and B, Final Directed Field Experiences (Student Teaching). For information concerning requirements for the B.A. program, teacher preparation, as well as the fifth year for the credential, consult the art education faculty.

Bachelor of Science Degree in Industrial Design (code 3-5853)

This degree program is planned for students concerned with development of professional competence in combining current technology with concepts and principles developed by the visual arts. It will provide the backgrounds in science and technology and the aesthetic awareness demanded by the responsibilities of the industrial design profession as well as a broad background in general education necessary for a functioning relationship with modern society.

Lower Division: Art 112A, 112B, 121, 131, 181, 184, 187, 223, 224, 231, 237; Industrial Arts 281, 282; Mechanical Engineering 172.

Upper Division: Art 331A, 331B, 332, 333A, 333B, 431A, 431B, 418 and 12 art elective units of which 9 must be outside the area of specialization of industrial design. Approved lower and upper division electives to total 132 units.

Certificate Program in Biomedical Art

The Certificate Program in Biomedical Art is an interdisciplinary program sponsored by the Art and Biology Departments.

Biomedical art is commissioned principally by (1) hospitals or individual researchers for publication, (2) by publishers and film producers serving the biomedical professions, (3) by producers of educational aids for biomedicine. Therefore, proficiency in commercial art and printing procedures including photography and typography is required.

Special permission is not required for a student to pursue the Certificate in Biomedical Art. The student may apply for certification upon completion of the following CSULB course work and conditions:

Requirements for the Certificate in Biomedical Art:

1. A major in art or biology.
2. A 2.75 overall GPA and 3.25 in the major.
3. Twenty-five units as listed: *Art* 271, 372, 374A,B, 499F. (Beginning Drawing and Beginning Design are prerequisites to Art 271 and two semesters of Life Drawing are prerequisite to Art 372.) *Biology* 208, 216, 364, 496. (Biology 364 must be taken concurrently with Art 374B; Biology 496 may be taken as a 1-3 unit course.) *Recommended elective courses:* Biology 331, 336. Admission to Biology 331, 336 and 496 will be by permission of instructor.

Co-directors of the CSULB biomedical art program are in art: Richard Oden, professor, and Peter Mendez, assistant professor, and in biology: Dr. Hiden T. Cox, professor, and Dr. Kenneth Gregory, associate professor. Questions may be addressed to them during office hours which are listed in the respective departmental offices.

Certificate Program in Museum Studies

The Certificate Program in Museum Studies is open to graduate students in museum related fields including the visual arts, science, history, but does not exclude other fields. The initial program is to be devoted primarily to art museum studies.

Admission to the program is by permission of the museum studies faculty within the Art Department. Interested students should apply to the Director, University Galleries.

Requirements for the Certificate in Museum Studies:

A total of 30 (or 29) units to include: Art 344A or B, 345, six consecutive units of Art 445 beginning in the spring semester; Art 495 in residence museum training; Art 496 (or Art 696 for two units); English 317; Journalism 375 or 376; Political Science 331 and Speech Communication 130.

Master of Arts Degree in Art

Master of Fine Arts Degree

Programs of study leading to the master of arts degree in art and master of fine arts degree are offered. For detailed information concerning requirements see the *Graduate Bulletin.*

Lower Division

100. Introduction to Art Studio (3) F, S Faculty
Visual and structural concepts through studio experiences in color, drawing, painting, design and three-dimensional form. Not open to students who have had Art 121, 131, 187 or equivalent. Designed for non-art majors.

110. Introduction to Art (3) F, S Faculty
Media, methods of analysis and stylistic development in the visual arts. A lecture course with field trips. Not open for credit to art majors.

111. Fundamentals of Art (2) F, S Faculty
Comparative study, through lecture, discussions and readings, of the considerations which are basic to an understanding of art and its relation to society.

112A,B. History of Western Art: Survey (3,3) F, S Faculty
Development of art as an integral part of Western culture. 112A: From prehistory to the Renaissance; 112B: From the Renaissance to the present day.

113A,B. Survey of History of Asian Art (3,3) F, S Faculty
Art 113A: Art of India and Southeast Asia; 113B: Art of China, Japan and Korea. Not open to students with credit in Art 412A,B.

121. Two-Dimensional Design (3) F, S Faculty
Investigation and problems in the organization of two-dimensional visual phenomena.

131. Three-Dimensional Form (3) F, S Faculty
Prerequisites: Art 121, 181. Investigation and problems in the organization of three-dimensional phenomena.

151. Ceramics: Beginning Hand Building (2) F, S Faculty
Handbuilding techniques used in the design, forming, glazing and firing of ceramic materials.

161. Beginning Life Sculpture (2) F, S Faculty
Prerequisites: Art 181, 184. Modeling from the human figure with emphasis on composition.

181. Beginning Drawing (3) F, S Faculty
Introduction to drawing with emphasis on perspective, light, shadow, and volume in composition using a variety of media.

184. Beginning Life Drawing (3) F, S Faculty
Prerequisite: Art 181 or concurrent enrollment in 181 and 184. Drawing from the human figure.

187. Beginning Painting (3) F, S Faculty
Prerequisites: Art 121, 181. Introduction to painting problems using opaque media.

213. Comparative Art: Western/Non-Western (3) F, S Faculty
Comparison of art theory and aesthetics in Western and non-Western cultures.

222. Calligraphy (2) F Turnbull
Prerequisites: Art 121, 181. Study of letter design and written letterforms utilizing the broad pen. Examines traditional written letterforms and contemporary interpretations of these forms.

223. Lettering (2) F, S Faculty
Prerequisites: Art 121, 181. Theory and techniques of lettering.

224. Perspective (2) F, S Faculty
Use of measuring devices and the mechanical development of volume, space and shadow projection.

231. Rendering for Designers (2) F, S Myers
Prerequisites: Art 121, 181, 224 or consent of instructor. Rendering of accurate and dramatic presentations. Primarily for design students entering the design profession.

237. Applied Design (2) F, S Faculty
Prerequisites: Art 121, 131, 181 or 224. Form in design and an introduction to the varying applied aspects of design.

251. Ceramics: Beginning Throwing (2) F, S Ramsey, Youry
Prerequisite: Art 151. Ceramic materials and design emphasizing the use of the potter's wheel to develop forms.

254. Introduction to Crafts (3) F, S Faculty
Crafts processes, techniques, materials and concepts as related to the design and making of utilitarian objects. Designed for non-art majors. Not open to art majors.

263. Beginning Sculpture (2) F, S Faculty
Principles of sculpture expressed through basic experiences in modeling, carving, construction and mold making.

271. Rendering (2) F, S Faculty
Prerequisites: Art 121, 181. Graphic visualization for convincing representation.

277. Survey of Printmaking (2) F, S Faculty
Prerequisites: Art 121, 184. Survey of all general printmaking techniques including the printing of etchings, silkscreen prints, lithographs and woodblocks.

281. Intermediate Drawing (2) F, S Faculty
Prerequisite: Art 181. Drawing in various media with emphasis on space and form.

284. Intermediate Life Drawing (2) F, S Faculty
Prerequisites: Art 181, 184. Drawing from the human figure.

287. Beginning Life Painting (2) F, S Faculty
Prerequisites: Art 184, 187. Painting from the figure.

Upper Division

320. Issues in the Arts (2) F, S Faculty
Comparative examination, discussion and study of major issues in the arts with special emphasis on issues that face the artist in our contemporary society.

345. Introduction to Museums (3) F, S Faculty
Designed for students interested in pursuing the Museum Studies Certificate; also open to art majors and students from other disciplines. Study of current museums, their functions, services, audience and ethics. Field trips to local museums are included.

435. Furniture Design (3) F, S Dukes
Prerequisites: Art 121, 131, 161, 181, 187, 237, 331A or 341A, 332; Industrial Arts 281, 282 or consent of instructor. Design of public and private interior furnishings with an in depth study of the potentials of contemporary production methods and materials.

445. Museum-Gallery Practices (3) F, S Glenn
Prerequisite: Consent of instructor. Pre-professional training in museum-gallery techniques: administration, exhibition, budget planning, curatorial problems, public relations, insurance, packing and shipping. The University Gallery will be the laboratory for practical experience: students will assist in conceiving and realizing exhibitions. Limited to nine units.

459. Ceramic Shell Casting (3) S Hitchcock
Prerequisite: Consent of instructor. Lost-wax casting of expressive and/or functional art forms in bronze using ceramic shell molds. Limited to six units.

480. Art in the Community (3) F, S Faculty
Prerequisite: Art majors with upper division standing or consent of instructor. A course designed to give students an opportunity to plan, develop and supervise art programs in the community while acquainting them with the potential rewards of community involvement.

489. Special Topics in Visual Art (1-3) On demand Faculty
Prerequisite: Consent of instructor. Topics of current interest in the visual arts will be selected for intensive study. May be repeated with different topics to a maximum of 12 units. Topics will be announced in the *Schedule of Classes.*

490. Special Topics in Studio Art (1-3) On demand Faculty
Prerequisite: Consent of instructor. Special topics of current interest in studio art will be selected for intensive study. May be repeated with different topics to a maximum of 12 units. Topics will be announced in the *Schedule of Classes.*

495. Field Studies in Art (1-6) On demand Faculty
An opportunity to study artistic monuments, objects, theories, techniques at appropriate off-campus locations. Up to six units of cumulative credit may be earned in Art 495.

496. Historiography in Art (3) F Krause
Prerequisite: English 100. Consideration of standard research techniques and resources as well as composition and documentation of written reports specifically related to the study of art.

499T. Special Studies in Intermedia (3) F, S Faculty
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual and group projects. Projects may be interdisciplinary and include performance, process and concept art, and the application of materials and technology to new forms of art. Limited to six units in one semester and a total of nine units.

Art Education

300. Child Art (3) F, S Faculty
Planning, developing and evaluating objectives and procedures for teaching the visual arts in the elementary school which includes experiences appropriate to child growth and development. Not open to students with credit in Art 300A.

302. Child Crafts (3) F, S Faculty
Planning, developing and evaluating objectives and procedures for teaching the visual arts in the elementary school. Experiences in crafts, sculpture and printmaking processes appropriate to child growth and development. Not open to students with credit in Art 300B.

304. Art in Recreation (2) F, S Archer, Hitchcock
Prerequisite: Art 100. Creative use of art materials for recreational programs and leisure activities.

306A,B. Arts and Crafts for Exceptional Children (2,2) F, S Schmidt
Methods and materials for teaching arts and crafts to mentally retarded, educationally handicapped, visually impaired, aurally impaired, multi-handicapped, orthopedically impaired and disadvantaged children.

400. Advanced Art Studio (3) F, S Faculty
Prerequisite: Art 100. Advanced studio experience in color, drawing, painting, design and three dimensional form.

402. Concepts in Art Appreciation (2) F, S Schultz
Techniques for promoting the study of the visual arts in relation to visual/tactile perception, creative art expression, art heritage and aesthetic judgment.

403. Crafts for Secondary Schools (3) F, S Hitchcock
Experience with a variety of craft processes using materials and equipment appropriate for junior and senior high school art programs. Consideration of objectives and procedures for teaching crafts. Not open to students with credit in Art 303.

404. Ceramics for School Programs (3) F, S Faculty
Experience with ceramic processes, materials and equipment appropriate to school art programs. Consideration of objectives and procedures for teaching ceramics. Not open to students with credit in Art 305A-B.

405. Drawing and Painting for School Programs (3) F, S Faculty
Experiences with a variety of drawing and painting techniques and materials appropriate for school art programs. Consideration of objectives and procedures for teaching drawing and painting. Not open to students with credit in Art 308A-B.

407. Art Practicum (3) F, S Faculty
Prerequisite: Consent of instructor. Development of attitudes and skills required for the production, evaluation and appreciation of the visual arts. Consideration of the value of the art process and product to the individual and to society.

408. History and Philosophy of Art Education (2) F, S Purcell
Study of the historical and philosophical background of the teaching of art in the schools of America.

499P. Special Studies in Art Education (3) F, S Faculty
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in art education. Limited to six units in one semester and a total of nine units.

Art History

310. Classical Art (3) F Greer
History of Greek and Roman art: 1000 B.C.-300 A.D.

311. Early Christian and Byzantine Art (3) F, 1978, S, 1980 Martel
Arts of Southern Europe from decline of Roman Empire through Byzantine Empire to 1200.

312. Ancient Art (3) S, 1979 and alternate years Krause
Prehistoric, Near Eastern, Egyptian and Aegean art.

313A. Medieval Art (3) S, 1979, F, 1980 Martel
Arts of Northern Europe from Merovingian through the Romanesque periods.

313B. Medieval Art (3) F, 1979, S, 1981 Martel
Gothic Art.

314A. Renaissance Art (3) F Greer
Art of the Renaissance, 1300-1500.

314B. Renaissance Art (3) S Greer
Art of the Northern Renaissance in the Netherlands, France and Germany, 1300-1500.

314C. Renaissance Art (3) S Greer
High Renaissance and Mannerist art of the 16th Century in Europe.

315A,B. Baroque and Rococo Art (3,3) F, S Martel
Art 315A: Art of 17th and 18th Century Italy, Flanders, Spain and Holland; 315B: Art of 17th and 18th Century France, England and Central Europe.

316A,B. Nineteenth Century Art (3,3) F, S Cooper
Art 316A: European art from Neo-Classicism through Realism; 316B: From Impressionism through Post-Impressionism.

317A,B. Twentieth Century Art (3,3) F, S Gross
Art 317A: Art from 1900 to 1945; 317B: From 1945 to the present.

318. History of Prints (2) F Faculty
Printmaking and printmakers in Eastern and Western cultures from their origins to contemporary developments in the 20th Century.

319A,B. Chinese Art (3,3) F, S Faculty
Art 319A: Chinese art third millenium B.C. through the 10th Century A.D.; 319B: From the 10th Century A.D. through the 20th Century.

393A,B. Pre-Hispanic Art of the Americas (3,3) F, S Slayman Jones
Art 393A: Art of Mexico and Central America from origin to high civilizations of Aztec and Maya; 393B: Art of South America from origin through Inca Empire.

411A. Primitive Art (3) F, 1978, S, 1980 Slayman Jones
Art of Sub-Saharan Africa.

411B. Primitive Art (3) S, 1979, F, 1980 Slayman Jones
Oceanic art.

411C. Primitive Art (3) F, 1979, S, 1981 Slayman Jones
North American Indian art.

413A. North American Art (3) F, 1979 and alternate years Gross
Art of the United States from the Colonial period through the Civil War.

413B. North American Art (3) S Gross
Art of the United States from the Reconstruction period to the present.

415A,B. Art of India (3,3) F, S Aall
Art 415A: Indian art and architecture, Buddhist and Hindu from 2500 B.C. to 1000 A.D.; 415B: From 1000 A.D. to the 20th Century.

416. History of Ceramics (3) S Ramsey
Materials and techniques as they relate to the historical development of pottery styles and forms.

417. History of Architecture (3) F Krause
Evolution of architecture relative to the human need to shape environment in accordance with governing concerns of specific periods in history.

418. History of Design (3) S Krause
Development of design as an independent creative activity including a consideration of both pre-technological and technological culture.

419. History of Textiles (3) S Leland
Historical survey of textile structure and design as they relate to use, materials and invention of processes in determining character, quality and stylistic concepts.

491. Buddhist Art of Southeast Asia (3) F Aall
Arts of Thailand, Cambodia, Vietnam and Indonesia with reference to arts of Burma, Laos, and Malaysia.

492. Islamic Art of Persia and Mughal India (3) S Aall
Islamic art and architecture of Persia and its transformation in India during the Mughal period.

494A,B. Japanese Art (3,3) F, S Faculty
Art 494A: The art of Japan from 10,000 B.C. to end of Kamakura Period 1185 A.D.; 494B: From the Muramachi Period to the present day.

496. Historiography in Art (3) F Krause
Prerequisite: English 100. Consideration of standard research techniques and resources as well as composition and documentation of written reports specifically related to the study of art.

497. Special Studies in Art History (3) F, S Faculty
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in art history. Limited to six units.

Ceramics

351A. Ceramics: Advanced Wheel (3) F, S Youry
Prerequisites: Art 131, 251. Design problems with ceramic materials emphasizing wheel thrown forms.

351B. Ceramics: Surface Enrichment (3) F, S Youry
Prerequisite: Art 351A. Design problems with ceramic materials emphasizing surface enrichment.

352A. Ceramics: Glaze Technology (3) F Ramsey
Prerequisite: Art 251. Nature of raw materials as they relate to the development of clay bodies and ceramic glazes.

352B. Ceramics: Plaster Shop (3) S Ramsey
Prerequisite: Art 352A. Specific problems involving commercial production and techniques.

353. Ceramic Sculpture (3) S Ferreira
Prerequisites: Art 131, 151 and consent of instructor. Modeling and sculpturing of clay into non-utilitarian expressive forms and consideration of the technical problems inherent to the process and material.

451A-B. Advanced Ceramics (3,3) F, S Ferreira, Ramsey
Prerequisite: Art 351B. Individual problems in ceramics.

452. Ceramic Shop Planning (2) F Ferreira
Prerequisite: Art 351B. Ceramic equipment including kilns, their design and construction.

499A. Special Studies in Ceramics (3) F, S Ferreira
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in ceramics. Limited to six units in one semester and a total of nine units.

Display and Exhibition Design

344A-B. Display and Exhibition Design (3,3) F, S Dukes
Prerequisites: Art 111 or 161, 112A,B, 121, 131, 181, 187. Use of materials, processes, and design concepts in the planning and preparation of displays and exhibits.

499C. Special Studies in Display and Exhibition Design (3) F, S Dukes
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in display and exhibition design. Limited to six units in one semester and a total of nine units.

Drawing and Painting

380. Painting for the Non-Art Major (3) F, S Faculty
Prerequisite: Art 100. Work with various painting media indoors and on location. Not open for credit to art majors or art minors.

381. Drawing (3) F, S Faculty
Prerequisite: Art 181. Problems and concepts in drawing using a variety of media.

384A-B. Advanced Life Drawing (3,3) F, S Faculty
Prerequisite: Art 284. Continued study in drawing from the human figure.

385A-B. Watercolor Painting (2,2) F, S Faculty
Prerequisites: Art 121, 181, 187. Nature and use of the water color media.

387A-B. Painting (3,3) F, S Faculty
Prerequisites: Art 121, 181, 187. Painting with emphasis on representation, organization and expression.

389. Materials and Craft of Drawing and Painting (2) F, S Faculty
Prerequisites: Art 121, 181, 387A. Theory and practice in the craft of drawing and painting.

487A-B. Advanced Life Painting (3,3) F, S Faculty
Prerequisites: Art 287, 384A, 387A.

499D. Special Studies in Drawing (3) F, S Faculty
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in drawing. Limited to six units in one semester and a total of nine units.

499I. Special Studies in Life Drawing (3) F, S Faculty
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in life drawing. Limited to six units in one semester and a total of nine units.

499K. Special Studies in Painting (3) F, S Faculty
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in painting. Limited to six units in one semester and a total of nine units.

General Crafts

354A-B. General Crafts (3,3) F, S Cummings, Moryl, Muller-Stach, Pine, Snidecor
Prerequisites: Art 121, 131, 181. Crafts processes, techniques and concepts in the design and making of utilitarian art objects.

499B. Special Studies in General Crafts (3) F, S Cummings, Snidecor
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in general crafts. Limited to six units in one semester and a total of nine units.

Graphic Design

322A-B. Graphic Design (3,3) F, S Dukes, Turnbull
Prerequisites: Art 121, 131, 181, 184, 187; 322B: Art 223, 237. Design concepts and applications appropriate to specific two-dimensional visual communications problems.

323A-B. Visual Communications Design Production Processes (3,3) F, S Turnbull
Prerequisites: Art 121, 181, 223. Printing processes relative to the needs of the graphic designer from typographic design to reproduced form.

324A-B. Film Animation (2,2) F, S VanElmeren
Prerequisite: Consent of instructor by drawing portfolio. Design and production of color, super 8 mm and sound synchronized 16 mm animated films.

325. Packaging Design (2) F VanElmeren
Prerequisites: Art 322B, 323B. Materials, processes and the design of packaging and point-of-sales pieces.

422A-B. Advanced Visual Communications Design (3,3) F, S VanElmeren
Prerequisites: Art 322B, 323B.

499S. Special Studies in Visual Communications Design (3) F, S Faculty
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in graphic design. Limited to six units in one semester and a total of nine units.

Illustration

371A-B. Illustration (3,3) F, S Oden, Mendez
Prerequisites: (371A) Art 111 or 161, 112A,B, 121, 131, 181, 184, 187; (371B) Art 223, 271, 284. Editorial and advertising drawing; professional media, skills and techniques survey.

372. Anatomy for Artists (2) F, S Oden, Mendez
Prerequisites: Art 181, 184. Skeletal and muscle structure emphasizing the development of skill in depicting the human figure.

373. Fashion Illustration (2) S Mendez
Prerequisites: Art 371A, 372. Fashion drawing for reproduction.

374A-B. Biomedical Rendering (3,3) F, S Oden, Mendez
Prerequisite: Consent of instructor. Introduction to and practice in techniques of descriptive drawing and press reproduction of drawing. Emphasis on skill.

471A-B. Advanced Illustration (3,3) F, S Oden, Mendez
Prerequisite: Art 371B.

499F. Special Studies in Illustration (3) F, S Oden, Mendez
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in illustration or biomedical art. Limited to six units in one semester and a total of nine units.

Industrial Design

330A-B. Industrial Design Technology (2,2) F, S Faculty
Application of design principles to specific problems in the fields of industry. Not open to art majors or art minors.

331A-B. Industrial Design (2,2) F, S Kammermeyer
Prerequisites: Art 121, 131, 181 or 224; Art 331B: Art 237, 271. Planning and design of useful products for industrial production.

332. Rapid Visualization (2) F, S Myers
Prerequisites: Art 181, 224, 271 or consent of instructor. Visual presentation of concepts with emphasis on qualitative and quantitative techniques of communication as used in contemporary industrial design.

333A-B. Industrial Design Methodology (3,3) F, S Kammermeyer
Prerequisites: Mathematics 100, 101 or consent of instructor. Examination of methods and techniques in design problem solving.

431A-B. Advanced Industrial Design (4,4) F, S Tyrnauer
Prerequisites: Art 331B, Physics 100A,B, Industrial Technology 301 and 306 or consent of instructor. Advanced planning and design of projects in the area of mass produced objects, packaging, traffic, transportation, mechanical design and shelter.

432. Advanced Rapid Visualization (3) S Myers
Prerequisites: Art 224, 271, 332, consent of instructor. Advanced idea generation and visualization for industrial design.

499G. Special Studies in Industrial Design (3) F, S Faculty
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in industrial design. Limited to six units in one semester and a total of nine units.

Interior Design

341A-B. Interior Design (3,3) F, S Brisker, Yates
Prerequisites: Art 112A,B, 121, 131 and 181 or 224; 341B: 224, 237, 271, 332. Design of interior environments emphasizing interrelationships between interior space, architectural form and human factors in design.

342A-B. Architectural Drawing and Rendering (2,2) F, S Yates
Prerequisites: Art 121, 131, 181, 187, 224, 271; 342B: 332. Drawing, rendering and techniques of graphic expression for interior designers. Includes working drawings.

343. Materials of Architecture and Interiors (3) F Yates
Prerequisites: Art 121, 131, 224, 237, 271 or consent of instructor. Materials, processes and resources as they relate to architecture and interior design. Examination of technology and application through lecture, demonstration and field trips.

441A-B. Advanced Interior Design (3,3) F, S Brisker, Yates
Prerequisites: Art 341B, 342A-B or consent of instructor. Advanced interior design and space planning problems emphasizing relationships between the built environment and human factors in design.

442. Internship in Interior Design (3) F, S Brisker
Prerequisite: Consent of instructor. Student internship experience in selected interior design offices. An opportunity to work under supervision of interior designers in the field to expand student understanding of the complexities, discipline and challenges in the practice of interior design. May be repeated once for credit.

499H. Special Studies in Interior Design (3) F, S Brisker, Yates
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in interior design. Limited to six units in one semester and a total of nine units.

Metalsmithing and Jewelry

357A-B. Jewelry (3,3) F, S Muller-Stach, Pine
Prerequisite: Art 131. The design and creation of jewelry.

358A-B. Metalsmithing (3,3) F, S Muller-Stach, Pine
Prerequisites: Art 357A, Industrial Arts 282. The design and creation of flatware and holloware.

458A-B. Advanced Metalsmithing and Jewelry (3,3) F, S Muller-Stach, Pine
Prerequisites: Art 357B or 358B and consent of instructor. Individual problems in metalsmithing and jewelry.

499J. Special Studies in Metalsmithing and Jewelry (3) F, S Muller-Stach, Pine
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in metalsmithing and jewelry. Limited to six units in one semester and a total of nine units.

Printmaking

376. Printmaking: Beginning Relief (3) F Swift
Prerequisites: Art 121, 181, 184. Beginning printmaking processes in woodcut, wood engraving, collography and three dimensional prints.

377. Printmaking: Beginning Silkscreen (3) S Osborne
Prerequisites: Art 121, 181, 184. Beginning stencil techniques in silkscreen printmaking processes.

378. Printmaking: Beginning Intaglio (3) F, S Swift
Prerequisites: Art 121, 181, 184. Beginning class in the development and printing of etching, engraving, drypoint, aquatint and experimental techniques.

379. Printmaking: Beginning Lithography (3) F, S Osborne
Prerequisites: Art 121, 181, 184. A beginning class in stone lithography techniques in black and white and color.

475. Printmaking Workshop: Advanced Processes (3) F, S Faculty
Prerequisites: Art 277, 378, 379. A workshop devoted to advanced technical processes, photoprintmaking, shop practices and construction.

477. Advanced Color Intaglio (3) F, S Swift
Prerequisite: Art 378. Making color etchings and engravings using single and multiple plate, color plates and viscosity color printing techniques.

478. Advanced Lithography (3) F, S Osborne
Prerequisite: Art 379. Advanced lithographic techniques on stone and aluminum plate, in black and white and color.

499R. Special Studies in Printmaking (3) F, S Osborne, Swift
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in printmaking. Limited to six units in one semester and a total of nine units.

Sculpture

361. Life Sculpture (3) F, S Werlick
Prerequisite: Art 161. Intensive study of the figure through individual student concepts. Mold and casting techniques and direct plaster parging.

362A. Sculpture Processes (3) F, S Werlick
Prerequisites: Art 121, 131, 161, 181, 263. The traditional lost-wax techniques of casting non-ferrous metals. Wax formulation and manipulation, gating theory and practice, investment procedures, foundry management, metal casting, patination and tool making.

362B. Sculpture Processes (3) F, S Glenn
Prerequisites: Art 121, 131, 161, 181, 263. Sculpture composition in selected materials and processes such as welding and metal fabrication, stone and wood carving, mold making and casting, wood construction and ceramic sculpture.

363. Sculpture (3) F, S Glenn
Prerequisites: Art 362A and B. Composition in sculpture utilizing a variety of processes and permanent materials.

461. Advanced Life Sculpture (3) F, S Werlick
Prerequisites: Art 361, 362A and B. Large-scale sculpture from the model emphasizing expressive content. Work in clay and plaster, armature and stand construction, oil-clay formulation and advanced moldmaking techniques.

463. Advanced Sculpture (3) F, S Glenn
Prerequisites: Art 361, 362A,B, 363. Advanced composition in sculpture.

499M. Special Studies in Sculpture (3) F, S Glenn, Werlick
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in sculpture. Limited to six units in one semester and a total of nine units.

Textile Design

327A-B. Surface Design (3,3) F, S Leland, Faculty
Prerequisites: Art 121, 181, 187. Variety of design concepts in relation to media and processes appropriate to both hand and commercial application to textile and other surfaces.

328. Structures in Fiber (3) F, S Faculty
Prerequisites: Art 121, 131, 181, 187. Concepts and development in non-loom fiber structure.

428A-B-C. Weaving (3,3,3) F, S Leland, Faculty
Prerequisites: Art 121, 131, 181, 187. Weaves, techniques and materials of structural textile design with emphasis divided between commercial application and personal expression within the contemporary idiom. Art 428B and 428C require consent of the instructor.

499N. Special Studies in Textile Design (3) F, S Leland
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in textile design. Limited to six units in one semester and a total of nine units.

Theatre Design

347A-B. Theatre Design (3,3) F, S Faculty
Prerequisites: Art 112A,B, 121, 131, 181, 187. Sets, costumes and properties for the contemporary theatre in education.

4990. Special Studies in Theatre Design (3) F, S Faculty
Prerequisite: Consent of instructor. Opportunity for extensive work with faculty supervision on individual problems in theatre design. Limited to six units in one semester and a total of nine units.

Graduate Division

509A-B. Studio Problems in Art Education (2,2)

559. Advanced Ceramic Shell Casting (3)

580. Community Arts Programs (3)

590. Special Problems in Studio Art (1-3)

599. Studio Problems in Art (3-12)

601A-B. Seminar in Art Education (3,3)

611. Seminar in Art History (3)

690. Graduate Seminar (3)

692. Public Exhibition (2-3)

694. Directed Studies-Studio (1-3)

695. Field Problems in Art (1-6)

696. Research Methodology (2)

697. Directed Studies (1-3)

698. Thesis or Project (1-6)

699. Thesis or Project (1-6)

Dance

Department Chair: Ms. Pat Finot.
Professor: Schlaich.
Associate Professors: Finot, Hamilton.
Assistant Professor: Kennedy.
Music Director: Ruby Abeling.
Credential Adviser: Dr. Joan Schlaich.
Academic Advising Coordinator: Dr. Joan Schlaich.

The Dance Department provides an in-depth program of studies with emphasis on modern dance technique, composition and performance. The curriculum is designed to give students a basic dance background which prepares them as a teacher at the secondary, community college or university level in both public and private schools; a dance specialist; performer in dance companies, on television or in dance films; or a choreographer for companies or films. The curriculum gives the general education student and the student in closely related areas experience in dance as an art form.

The CSULB dance major is the only dance degree program approved in The California State University and Colleges system. The number applying to major in dance exceeds the number that can be accepted. Therefore, dance majors are accepted by audition only. Applicants should contact the Dance Department in advance of enrollment.

The part-time faculty includes Rebecca Bobele, Ellen Graff, Ted Howard, Carlton Johnson, Karen Mullin, Gloria Newman, and Betty Walberg.

Major in Dance for the Bachelor of Arts Degree (code 2-5230)

Lower Division: Dance 112A, 112B, 114A, 212A, 212B, 220A.

Upper Division: Dance 320A, 331, 350A, 441, 488; Physical Education 333; plus a minimum of two units selected from Dance 180A,B/380A,B and one course selected from Theatre Arts 242, 246 and 348.

Electives: A minimum of 10 units from Dance 114B, 116A, 116B, 117, 120A, 131, 181A,B, 312A, 312B, 314A, 317, 318, 350B, 381A,B, 462, 485, 490, 499. Must include one of the following: (1) Dance 485 or (2) Dance 318 and 350B or (3) other courses specified by the Dance Department.

Minor in Dance (code 0-5230)

Lower Division: Dance 112A, 112B, 114A, 220A.

Upper Division: Dance 320A, 331, 441, 488 and a minimum of two units selected from Dance 180A,B, 380A,B.

Teaching Credential

See adviser.

Technique

Note: It is expected that dance students will take technique courses in sequence. However, students must screen for level placement in all technique classes. Screening will be done the previous semester and the first day of class. (Non-major technique I classes are not screened.)

Lower Division

112A,B. Modern Dance Technique I, II (2,2) F, S Faculty
Basic skills and techniques of modern dance. (Activity 4 hours.)

114A,B. Ballet Technique I, II (2,2) F, S Faculty
Basic skills and techniques of ballet. (Activity 4 hours.)

116A,B. Jazz Technique I, II (2,2) F, S Faculty
Basic theory and practice of modern jazz dance. (Activity 4 hours.)

117. Tap Dance I (2) F, S Faculty
Basic technique in the tap dance idiom, time steps, stylistic patterns, rhythmic patterns and tap combinations.

120A. Improvisation (2) F Hamilton
Use of improvisation as an introduction to structural form; individual and group problems. (Activity 4 hours.)

131. Introduction to Music for Dance (1) F or S Faculty
Basic music notation, simple and complex rhythmic patterns, poly rhythms, skill in the use of percussion instruments and a brief survey of the historical periods of music for dance.

162. Introduction to Dance for the Theatre (2) F, S Hamilton
Fundamentals of movement theories and techniques with direct application to stage movements. Designed for theatre arts majors. (Activity 4 hours.)

180A,B. Dance Performance (1,1) F, S Finot
Participation as a performer and/or choreographer in Dance Department approved University-sponsored production. Some concert participation is by audition only. A combination of 180A,B/380A,B may be repeated for a total of eight units.

181A,B. Dance Production-Technical (1,1) F, S Finot
Technical participation in Dance Department-approved University-sponsored productions. A combination of 181A,B/381A,B may be repeated for a total of eight units.

212A,B. Modern Dance Technique III, IV (2,2) F, S Faculty
Increased skill in the techniques of modern dance. (Activity 4 hours.)

220A. Elements of Choreography (3) F, S Schlaich
Prerequisite: Dance 112B. Theory and practice in the basic elements of dance composition. (Lecture 1 hour, activity 4 hours.)

Upper Division

312A,B. Modern Dance Technique V, VI (2,2) F, S Newman
Increased skill in the technique of modern dance. (Activity 4 hours.)

314A. Ballet Technique III (2) F Faculty
Advanced skills in the techniques of ballet. (Activity 4 hours.)

316. Jazz Technique III (2) F Faculty
Advanced theory and practice in jazz dance. (Activity 4 hours.)

317. Tap Dance II (2) F, S Faculty
Prerequisite: Dance 117 or consent of instructor. Advanced techniques in the tap dance idiom.

318. Ethnic Dance Forms (3) F, S Faculty
Theory and technique of various ethnic dance forms. May be repeated up to 12 units, provided it is with a different instructor each time. (Lecture 1 hour, activity 4 hours.)

320A. Solo and Small Group Composition (3) S Faculty
Prerequisite: Dance 220A. Development of theme and style in solo and small group studies. (Lecture 1 hour, activity 4 hours.)

331. Music for Dance (3) F Walberg
Prerequisite: Dance 212A or consent of instructor. Theoretical and practical analyses of musical forms and instruments for dance accompaniment related to class work and performance. Includes a music repertoire for dance. (Lecture 1 hour, activity 4 hours.)

350A,B. Dance Notation I, II (3,3) F, S Kennedy
Theory and practice of notating movement through labanotation. (Lecture 1 hour, activity 4 hours.)

380A,B. Dance Performance (1,1) F, S Finot
Participation as a performer and/or choreographer in Dance Department-approved University-sponsored production. Some concert participation is by audition only. A combination of 180A,B/380A,B may be repeated for a total of eight units.

381A,B. Dance Production-Technical (1,1) F, S Finot
Technical production participation in Dance Department-approved University-sponsored productions. A combination of 181A,B/381A,B may be repeated for a total of eight units.

441. History of Dance (3) F, S Schlaich
History of dance from primitive to contemporary times. Cultural importance of dance as an art form.

462. Advanced Dance Movement for the Theatre (2) F, S Hamilton
Prerequisite: Dance 112A or 162. Movement, modern dance and choreography for the actor, teacher and director of theatre arts and musical theatre.

485. Contemporary Dance and the Fine Arts (3) F Walberg
Advanced theory and practice relating contemporary dance to the fine arts.

488. Organization of Dance Production (3) S Schlaich
Prerequisite: Open to dance majors and minors only. Analysis and practice in the production elements of dance concerts. Course is coordinated with department concert.

490. Special Topics in Dance (1-3) F, S Faculty
Prerequisite: Consent of instructor. Topics of current interest in the field of dance selected for special presentation and development. May be repeated provided it is a different topic, or with consent of department chair. Topics will be announced in the *Schedule of Classes*.

499. Directed Studies in Dance (1-3) S Faculty
Prerequisite: Consent of instructor. Independent projects and research of advanced nature in any area of dance. May be repeated for a maximum of six units.

Music

Department Chair: Dr. Gerald R. Daniel.

Emeriti: Nadyne C. Gibson, Sanford M. Helm, Russel N. Squire, Gerald Strang, Henri Temianka.

Professors: Anderson, Becker, Curtis, Dallin, Daniel, Lampl, Musafia, Neiswender, Pooler, Rayner, Stroud, Tyndall, Winslow.

Associate Professors: Andrus, Crockett, Matthews, Norman, Roskam, Sindelar, Thompson.

Assistant Professors: Prince, Wilson.

Credential Adviser: Dr. Robert Anderson.

Academic Advising Coordinator: Dr. Gerald Daniel.

The music curriculum provides programs for (1) the student who wishes to become a professional musician; (2) the student who plans to enter the teaching profession; (3) the student for whom music is part of a general education; (4) the student intending to pursue an advanced degree in music.

All entering freshmen and transfer students are required to take a group of placement tests and auditions which are normally administered at the beginning of registration week. Each entering student should inquire at the Music Office for the details.

Each music major must declare a specialization in some performance area (voice, piano or other instrument), develop ability in this area, appear in student recitals and demonstrate progress to the satisfaction of the faculty.

Since keyboard facility is important to every music major, each student is urged to meet keyboard proficiency requirements in the lower division, regardless of the performance area.

Participation, with or without credit, in one of the principal performance organizations (Choral Organizations, Symphony Orchestra or Band) is required of each music major each semester.

A satisfactory senior project is a prerequisite to graduation.

The Music Department holds membership in the National Association of Schools of Music. The bachelor of music and the bachelor of arts degrees in music are accredited by the association.

Major in Music for the Bachelor of Music Degree

A minimum of 72 units including the core and one area of concentration is required, which should include at least 24 upper division units. Concentrations include history and literature, composition, instrumental music, choral-vocal music and individual performance. Admission to the concentration is determined by audition and approval of the chairperson of the department. Application for admission to concentration must be submitted no later than the beginning of the junior year, and significant progress must be demonstrated during the remaining two years. A bachelor of music degree requires a total of 132 units which must include a minimum of 40 upper division units.

Core: Music history and literature (Music 160, 260, 360 plus 2 additional units from Music 460, 461, 462, 463, 464, 465, 466, 490); music theory (Music 141A-B, 142A-B, 241, 341, 342); music performance (Music 100, 300—at least one unit each semester in residence); keyboard proficiency (equivalent to Music 220B); semester recital (Music 020—each semester in residence); senior project (Music 428).

History and Literature Option (code 4-5824)

Required: performance level of junior on major performance medium, Music 393, 469, 490, 2 units of studies in library resources and research elected as Music 499 by advisement. Elect 10 units from Music 460, 461, 462, 463, 464, 465, 466; may elect additional units from Music 429, 442, 444, 445, 491. Recommended general education courses: English 101, foreign language equivalent to 201A, art history, theatre history, history.

Composition Option (code 4-5822)

Required: performance level of junior on major performance medium, Music 441, 442, 444, 445 (must be taken twice), 446, six units to be selected from Music 422, 425B, 429, 443, 491, 499.

Instrumental Music Option (code 4-5826)

(This option is intended for teaching credential candidates.) Music 429 (4 units); Music 425A, 425B, 442, 481, 482A, 482B; 10 units of individual instruments, Music 125/325, to be distributed by advisement over brass, woodwinds, strings and percussion.

Choral-Vocal Music Option (code 4-5821)

(This option is intended for teaching credential candidates.) Music 429 (4 units); Music 320 or 322, 327, 328, 421, 422, 426, 483A, 483B; 8 units selected from Music 130, 330, 425A, 425B, 442, 444, 460, 461, 462, 466.

Performance Option (code 4-5828)

Individual instruction required each semester in residence with an achievement of senior level on major performance medium. Music 335 will replace this requirement in certain concentrations when offered and advised by the department.

Piano: Music 321, 431, 460; Music 200/400 (4 units); Music 335 (8 units in place of Music 429).
Organ: Music 421, 444, 461.
String Instruments: Music 425A, Music 200/400 (4 units); Music 335 (8 units in place of Music 429, when available).
Wind Instruments: 425A, 425B, 464, 465; Music 200/400 (4 units).
Voice: Music 328, 332, 421, 426, 432A,B, 462.

Opera: Music 328, 332, 421; Theatre Arts 231; Music 463 to complete core; 3 additional units selected from Theatre Arts 242, 244, 246; Music 130/330 allowed for 4 units of activity credit.
Piano Accompanying: Music 326, 421, 431A,B; Music 200/400 (4 units); Music 462 to complete core.

Major in Music for the Bachelor of Arts Degree (code 2-5820)

Lower Division: Music 020 (four semesters), 100 (four semesters), 141A-B, 142A-B, 241, 260, keyboard competency equivalent to 220B.

Upper Division: At least 24 units of upper division music courses, including: Music 300 (four semesters), 341, 342, 360, 429 (four semesters), 428. Undergraduates carrying more than 6 units are required to take Music 020 every semester except the semester of the senior project.

Certificate in Music Therapy

Requirements for the Certificate in Music Therapy

1. A bachelor of arts degree in music.
2. Thirty-five units distributed as follows:

   Lower Division: Music 122A or 125, 250A-B.

   Upper Division: Music 325, 350, 381, 386, 421 or 425A, 450, 451, 452; Educational Psychology 301, 305, 350, 451.

Master of Arts Degree in Music

A program of study leading to the master of arts degree in music is offered. For detailed information concerning requirements see the *Graduate Bulletin.*

Teaching Credentials:

See Instrumental Music and Vocal-Choral Music options under B.M. degree.

Music Performance

Opportunities to participate in various instrumental and vocal ensembles are available to all students. Before enrolling in a performing group students should apply to the director of the organization in which they wish to participate. Music performance courses may be repeated; up to 8 units of credit in Music 100 or 300 may be counted toward a bachelor's degree. Simultaneous enrollment in more than one section is permitted.

Lower Division

020. Semester Recital (0) F, S Faculty
Recital attendance and performance on principal instrument or voice. Required of undergraduate music majors each semester.

100. Performance (1) F, S Faculty
Prerequisite: Consent of instructor. Major performance groups, including University choir, Forty-Niner Chorus, men's chorus, women's chorus, band, orchestra, etc. (See note on music performance.)

101. Marching Band (2) F Curtis
Performance in the University Marching Band, half-time shows and other special marching events. Required attendance at all performances (see note on music performance).

120A-B. Class Piano (1,1) F, S Faculty
Technique, tone production, rhythm, sight-reading, interpretation and keyboard facility. Meets piano requirement for music majors and minors.

121A-B. Piano for Elementary Teachers (1,1) F, S Faculty
Techniques, rhythm, sight-reading, keyboard facility. Piano materials for the classroom teacher.

122A-B. Class Voice (1,1) F, S Faculty
Fundamental technique of singing, tone production, voice placement, breathing, diction. Repertoire and song interpretation.

125. Instruments (1) F, S Faculty
Prerequisite: Limited to music majors and minors. Class instruction in applied music. Areas include: flute, oboe, clarinet, bassoon, horn, trumpet, trombone, baritone, tuba, percussion, violin, viola, 'cello, bass, or groups such as woodwinds, brass, strings. May be repeated for credit.

130. Opera (1) F, S Lampl
Preparation, rehearsal and public performance of traditional and contemporary opera. May be repeated for credit.

140. Basic Music Theory (3) F, S Faculty
Notation and reading of music. Written, aural and performance experience with scales, intervals, chords, and melodies. Provides essential background for more advanced courses in music theory. (Lecture-discussion 3 hours.)

141A-B. Musicianship (2,2) F, S Faculty
Prerequisite: Music 140 or a satisfactory score on a placement examination. Music 142A-B to be taken concurrently. Sight singing, keyboard harmony, melodic and harmonic dictation through chromatic harmony and modulation.

142A-B. Harmony (3,3) F, S Faculty
Prerequisite: Music 140 or a satisfactory score on a placement examination. Music 141A-B to be taken concurrently. Traditional harmony: chord choice, part writing and analysis.

145. Fundamentals of Music (3) F, S Faculty
Music reading and writing related to the special creative and performance interests of the students. Not open to music majors.

160. The Arts and Society (3) F, S Daniel
Examination of the nature of the arts, the creative process, the materials and media, and its changing role in history and in society.

180. Exploring Music (3) F, S Faculty
Fundamentals of music and essentials of music listening. Performance skills in singing and playing music.

190. Listener's Approach to Music (3) F, S Faculty
Nontechnical course open to all students except music majors. Materials, forms and styles of music with extensive listening.

200. Performance (1) F, S Faculty
Prerequisite: Consent of instructor. Specialized performance groups, such as madrigal singers, chamber music, brass or woodwind ensembles, string quartet, etc.

220A-B. Class Piano (1,1) F, S Faculty
Continuation of 120A-B.

222A-B. Class Voice (1,1) F, S Faculty
Continuation of 122A-B.

241. Counterpoint (3) F, S Faculty
Prerequisites: Music 141B and 142B. Counterpoint in two, three and four parts.

250A. Introduction to Music Therapy (2) F Roskam
Introductory information, orientation and history of music therapy for those considering music therapy as a career.

250B. Introduction to Music Therapy (2) S Roskam
Introduction to hospital procedure and role of the music therapist and the various disciplines in the hospital milieu.

260. History of Music (3) F, S Wilson
Primarily for music majors and minors, but open to others who read music. Chronological study of music from 1750 to the contemporary scene. Selected readings, recordings and scores intensively studied.

271. Improvisation Techniques I (2) F Prince
Basic techniques in improvisation, beginning with simple question and answer phrases and progressing to extended solos. Detailed and applied knowledge of chord progressions.

280. Music Theory for Classroom Teachers (3) S Anderson
Prerequisite: Music 120A-B or Music 180 or consent of instructor. Scale and chord construction, melodic and harmonic design, rhythmic analysis; keyboard applications; original writing of simple song forms.

281. Community and Recreational Music (2) F, S Nelswender
Singing for enjoyment. Survey, singing and directing of song materials used in camps, scouting, schools, church youth groups, banquets. Techniques of song leading.

290. Music in General Culture (3) F, S Stroud
Artistic and socio-economic bases of music in the contemporary scene with emphasis on Southern California. Not open to music majors.

Upper Division

300. Performance (1) F, S Faculty
Prerequisite: Consent of instructor. Major performance groups, including University choir, Forty-Niner Chorus, men's chorus, women's chorus, band, orc estra, etc. (See note on music performance.)

301. Marching Band (2) F Curtis
Performance in the university Marching Band, half-time shows and other special marching events. Required attendance at all performances (see note on music performance).

320. Intermediate Piano (2) F, S Faculty
Prerequisite: Music 220B or consent of instructor.

321. Theory of Piano Technique (2) F Musafia
Prerequisite: Consent of instructor. Physiological mechanics and psychology of piano playing; theory of fingering; memorization; teaching, with reference to graded materials.

322. Intermediate Voice (2) F, S Nelswender
Prerequisite: Music 222B or consent of instructor.

324. Introduction to Organ Technique (2) F, S Stroud
Prerequisite: Music 220B or consent of instructor. Acquaints pianists with organ-playing technique; registration, pedal technique, repertoire; performance of simple compositions, accompaniments and hymns.

325. Instruments (1) F, S Faculty
See Music 125. May be repeated for credit.

326. Piano Accompanying (2) F Crockett
Prerequisite: Piano major or consent of instructor. Instruction and training in the art and the techniques of accompanying for singers, instrumentalists and ensembles. Not open to students with credit in Music 228. (Lecture 1 hour, laboratory 3 hours.)

327. Techniques of Choral Singing (2) F, S Pooler
Vocal and aural training of the choral musician.

328. Diction for Singers (2) F Neiswender
Prerequisites: Music 122A-B or equivalent. Principles of pronunciation and enunciation of English, German, French and Italian texts, with special emphasis on the rhythmic and dramatic aspects of articulation. Use of international phonetic alphabet.

330. Opera (1) F, S Lampl
Preparation, rehearsal and public performance of traditional and contemporary opera. May be repeated for credit.

332. Opera Repertoire (2) S Lampl
Prerequisites: Two years of voice study or equivalent and consent of instructor. Study and musical preparation of representative opera excerpts (arias, ensembles, and entire roles). Vocal interpretation as function of the dramatic action.

335. Advanced Performance (2) F, S Musafia
Prerequisite: Consent of instructor. Advanced study in a performance medium with equal emphasis on concert repertoire and technique. Includes special training for a performing career. May be repeated for credit to a maximum of 8 units.

341. Musical Form (3) F, S Faculty
Prerequisites: Music 142B, 241. Small, large, multimovement, variation, and contrapuntal forms in instrumental and vocal music.

342. Materials of Modern Music (3) F, S Faculty
Prerequisites: Music 142B, 241. Melodic, harmonic, rhythmic and contrapuntal materials of 20th Century music. Analysis of representative compositions and writing in typical contemporary styles.

350. Influence of Music on Behavior (3) S Roskam
Study of music as a form of human behavior and the fundamental constructs for the use of music as a therapeutic medium.

360. History of Music (3) F, S Rayner
Primarily for music majors and minors, but open to others who read music. Chronological study of music from antiquity to 1750. Selected readings, recordings and scores intensively studied.

370. Recording and Electronic Techniques (2) S Prince
Technique of the preparation and recording of music and the study of electronic recording and musical equipment.

371. Improvisation Techniques II (2) S Prince
Continuation of Music 271.

372. Jazz Harmony and Analysis (3) F Prince
Prerequisite: Music 142B. Basic techniques of writing and analyzing jazz harmony.

380. Elementary Music Education (3) F, S Faculty
Prerequisite: Music 142A or Music 180. Psychological principles and sequence of music learning. Music literature and its relation to aural experience, kinesthetic sensitivity, performance skill, and the development of creativity. Recommended for the Elementary Credential candidate. Not open to music majors.

381. Foundations of Music Education (3) F, S Faculty
Analysis of the nature of music experiences and their development through the use of elementary and junior high school music literature. Psychological principles, processes and sequences involved in the acquisition of musical skills, understandings and attitudes and their interrelationships. Open to music majors, music minors, music therapy majors and candidates for the liberal arts degree with a concentration in music. Required for elementary student teaching in music.

382. Children's Literature in Music (2) F, S Winslow
Music materials designed for children's listening and singing, together with principles of presentation.

383. Problems in Elementary School Music (2) SS Faculty
Prerequisite: Music 380 or 381 or consent of instructor. Procedures and materials used in elementary school music. Specific projects based upon individual needs.

385. Children's Music (3) On demand Faculty
Analysis of procedures and materials for teaching music in the elementary school. Participation in singing rhythmic and listening activities and in the use of simple instruments appropriate to child growth and development. Not open to students with credit in Music 381.

386. Music for Early Childhood (3) F, S Faculty
Prerequisite: Music 180 or consent of instructor. Comprehensive analysis of music materials and activities suitable for early childhood.

390. Music in Western Civilization (3) F, S Rayner
Music from the Renaissance to the present; lectures, readings and listening. Not open to music majors.

393. Jazz, An American Music (3) F, S Faculty
Studies from recordings, readings and live performances, the formative influences of jazz and its historical development up to the present. Musical style in jazz compared to that of other music and to other concepts of form in art.

394. Classical Music of India (3) F Faculty
Theory and practice of the music of India. Religious chants, classical ragas, dances and folk songs. Ensemble sessions with Sitar, Tabla, Tanpura and Voice.

400. Performance (1) F, S Faculty
Prerequisite: Consent of instructor. Specialized performance groups, such as madrigal singers, chamber music, brass or woodwind ensembles, string quartet, etc.

421. Choral Conducting (2) F, S Pooler, Thompson
Prerequisite: Music 327 or consent of instructor. Principles and techniques of choral conducting and organization. Study and interpretation of choral materials, using the class as a laboratory group. Three periods per week.

422. Advanced Choral Conducting and Literature (2) S Pooler
Prerequisite: Music 421 or consent of instructor. Choral technique, style and interpretation; choral schools and composers since the 16th Century; contemporary secular and sacred choral compositions. Class used as laboratory group.

424A-B. Advanced Organ (2,2) F, S Stroud
Prerequisite: Music 324 or consent of instructor. Technique, registration, repertoire. Recitals, workshop and field trips to outstanding organs.

425A-B. Instrumental Conducting (2,2) F, S Curtis, Lampl
Three hours weekly. (425A not open to students with credit in Music 420.)

426. Vocal Pedagogy (2) F Neiswender
Prerequisite: Consent of instructor. Theory and techniques of teaching voice.

428. Senior Project (0) F, S Faculty
An individual recital of the standard literature for solo instrument or voice or a written project in certain options in the bachelor of music degree. Enrollment restricted to music majors passing the qualifying examination.

429. Individual Instruction for Music Majors (1) F, S Faculty
Open to music majors only. Private lessons in their major performance medium. Application must be made to the chairman of the Music Department during the semester prior to registration. Registion is subject to his approval. May be repeated for credit.

431A,B. Score and Sight Reading (2,2) F, S Musafia
Prerequisite: Consent of instructor. Instruction in reading piano music at sight and in reducing vocal and instrumental scores at the piano. Studies in transposition.

432A,B. Song Repertoire (2,2) F, S Nelswender
Prerequisite: Voice major or consent of instructor. Selecting and preparing song literature for public performance. Coaching in languages, musical style and vocal techniques.

441. Studies in Musical Analysis (2) F Faculty
Prerequisite: Music 341. Intensive individual and class analysis of representative compositions of various periods and styles.

442. Instrumentation (3) F, S Faculty
Prerequisites: Music 142B, 241. Range, characteristics, technical capabilities and limitations of orchestral and band instruments. Scoring for string, woodwind, brass and percussion ensembles.

443. Scoring and Arranging (3) F, S Faculty
Prerequisite: Music 442. Scoring and arranging for orchestras of various sizes for band and symphonic wind ensemble, and for voices.

444. Composition I (2) F, S Faculty
Prerequisite: Music 341 or consent of instructor. Students wishing to compose in the electronic medium must complete Music 446 as a prerequisite.

445. Composition II (2) F, S Faculty
Prerequisite: Music 444 or consent of instructor. May be repeated to a maximum of 6 units. Students wishing to compose in the electronic medium must complete Music 446 as a prerequisite.

446. Electronic Music Composition (3) S Andrus
Prerequisite: Music 342 and/or consent of instructor. Introduction to electronic music studio techniques and literature, with instruction in composing using electronic devices.

450. Psychology of Music (3) F Roskam
Introduction to the physical aspects of music with emphasis on psychological and perceptual responses to music. Primarily for music therapy majors but open to all music majors and psychology majors with music minor.

451. Music in Therapy (2) S Roskam
Basic approaches and techniques of music therapy applied in mental health programs. Clinical uses of music in psychiatric settings, mental retardation centers and hospitals for the physically disabled will be studied.

452. Clinical Experience (1) On demand Roskam
Prerequisite: Music 451. Supervised clinical experience within one area of disability for the duration of the semester. May be repeated once for credit.

460. Keyboard Literature (2) S Crockett
Prerequisite: Music 360 or Music 390 or consent of instructor.

461. Organ Literature (2) S Stroud
Prerequisite: Music 360 or Music 390 or consent of instructor. Organ music from the Renaissance to the present.

462. Song Literature (2) S Nelswender
Prerequisite: Music 360 or Music 390 or consent of instructor. Music for solo voice composed after 1600. Vocal proficiency not required.

463. Music of the Theater (2) F Wilson
Prerequisite: Music 360 or Music 390 or consent of instructor. History and development of music for the stage from 1600 to the present, its conventions and styles. Analysis of representative masterworks.

464. Chamber Music Literature (2) S Wilson
Prerequisite: Music 360 or Music 390 or consent of instructor. Music for various instrumental ensembles representative of various periods and composers.

465. Symphonic Literature (2) F Rayner
Prerequisite: Music 360 or Music 390 or consent of instructor. Symphony and symphonic poem from their inception to the present time.

466. Church Music (2) F Stroud
Prerequisite: Music 360 or Music 390 or consent of instructor. History of western church music, noting its roots in the Jewish and Greek cultures. Concludes with a survey of church music of the United States.

469. Music in the Humanities (2) S Even years Daniel
Prerequisites: Music 160, 260, 360. Exploration of the nature of the musical medium and its logic in relation to various philosophical, artistic and esthetic frameworks, past and present. Required of all music literature majors.

474. Commercial Arranging (3) S Prince
Arranging and scoring for the various types of commercial ensembles in the styles demanded by contemporary performance practices.

480. Marching Band Techniques (2) F Norman
Marching fundamentals, charting formations, precision drills, parade technique and half-time pageantry.

481. Instrumental Organization and Literature (3) S Norman
Procedures for organization and development of instrumental programs and literature for performing groups.

482A,B. Instrumental Music Laboratory (1,1) F, S Norman
Laboratory experience in performance on secondary instruments of elementary and junior high level music materials.

483A,B. Choral Repertoire (1,1) F, S Thompson
Traditional and contemporary choral repertoire for public school teachers and church choir directors.

489. Special Topics in Music Education (1-3) F, S Faculty
Prerequisite: Consent of instructor. Topics of interest in the various areas of music education selected for special presentation and development. May be repeated for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

490. Musical Cultures of the World (3) F, S Musafia
Musical cultures of the world (excluding Western art music); the role of music in society and its relationship to other arts. Scale structure, instruments, musical forms and performance standards. For music majors or non-music majors.

491. Musical Acoustics (3) S Thompson
Prerequisites: Music 342, Physics 104, or consent of instructor. Nature and propagation of sound; acoustics of musical instruments; tuning and temperament; behavior of sound in enclosed spaces, acoustics of music rooms; acoustical aspects of sound recording and reproduction.

495. Special Topics in Music (1-3) On demand Faculty
Prerequisite: Consent of instructor. Topics of current interest in the various fields of music selected for special presentation and development. May be repeated for a maximum of six units. Topics will be announced in the *Schedule of Classes.*

499. Special Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Individual research or group investigation of selected topics. May be repeated for a maximum of six units of credit.

Graduate Division

520. Advanced Instrumental Conducting (3)

541. Studies in Homophonic Music (3)

542. Studies in Polyphonic Music (3)

561. Music of the Renaissance (3)

562. Music of the Baroque Period (3)

563. Music of the Classic Era (3)

564. Music of the Romantic Era (3)

565. Twentieth Century Music (3)

580. Studies in Contemporary Music Education (3)

581. Studies in Elementary School Music (3)

582. Studies in Secondary School Music (3)

641. Seminar in Musical Analysis (3)

645. Seminar in Advanced Composition (3)

680. Seminar in Instrumental Music Teaching (2)

681. Seminar in Choral Music Teaching (3)

695. Reading and Research Seminar (3)

696. Research Methods (3)

698. Thesis (2-6)

Theatre Arts

Department Chair: Mr. Ralph W. Duckwall.

Emeritus: Edward A. Wright.

Professors: Camburn, Duckwall, Green, Kahan, Lyman, MacArthur, Shoup, Stiver, Watts.

Associate Professors: Appel, Bailor, Eggers, Gibson, Rankin, Rugg, Smith, Skalka.

Assistant Professors: Avcollie, Cox.

Academic Advising Coordinator: Mr. Ralph W. Duckwall.

The Department of Theatre Arts offers three basic programs leading to the bachelor of arts degree with opportunities for options in performance (acting/directing), technical theatre (scenery/costume/lighting design) and children's theatre. Each program will provide a background for the master of arts degree in theatre arts which, in turn, is the basis for a junior college credential and other professional objectives.

This flexibility of program planning in theatre arts has been organized to serve student needs in three principal areas: (1) Enrichment of the student's liberal arts background through the development of appreciations and insights derived from theatre arts courses taken as general education electives. (2) Development of interests and skills that will offer the student life-long satisfactions as an avocational outlet. (3) Preparation for the professions of director, technical director, scene designer and performer in the community theatre, recreational theatre, children's theatre, educational theatre and professional theatre. Several course offerings in theatre and dramatic literature are available jointly with the Comparative Literature Department. These courses cover the full range of world drama from both the viewpoint of theatre and dramatic literature.

All majors are required to participate with or without credit in the departmental production program each semester. Furthermore, majors enrolled in any acting course are expected to be available, try out and participate in departmental productions in that semester. The student is expected to accept any role in which he/she is cast. Majors are also expected to seek approval from their advisers before making any commitment to a theatre program which lies outside of the departmental academic atmosphere.

The Department of Theatre Arts has extensive library resources available for students including the entire library of the Pasadena Playhouse, a collection consisting of approximately 5,400 scripts and books. The rare book department

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of the University Library houses for departmental use rare costume and scenic designs, outstanding Oriental theatre materials, period theatrical posters and rare manuscripts. Also, a compilation of over 1,400 authentic period costumes including part of the Pasadena Playhouse collection is available for student study and demonstration.

The W. David Sievers Memorial Scholarships in acting, named for the first faculty member of the theatre program, are awarded annually to new students who exhibit potential in the field of performance. Awards consist of a modest sum and are determined through competitive audition judged by faculty and fellow students. In addition, the Fine Arts Affiliates of the University and the Dramatic Allied Arts Guild of Long Beach provide for monetary awards to qualified students in all areas of theatre. For further information contact the Scholarship Committee of the Department of Theatre Arts.

The Theatre Arts Department holds membership in the National Association of Schools of Theatre. The bachelor of arts degree with a major in theatre arts is accredited by the association.

Major in Theatre Arts for the Bachelor of Arts Degree

The theatre arts core is required of all majors regardless of option.

Lower Division: Theatre Arts 114, 242, 244, 246, 248.

Upper Division: Theatre Arts 321A,B, 322A,B, 346, 374, 476. Theatre Arts 010 (no unit credit) is required each semester of enrollment.

No more than eight units of theatre arts activity (cast and/or crew) will apply toward degree requirements. Crew requirements for all majors: One major running crew assignment in residence in each of the areas of costume, make-up, stagecraft and lighting, to be satisfactorily completed with or without credit during the semester following completion of the related course. Students with transfer credit in those related courses must fulfill the same running crew requirements, with or without credit, within the first three semesters of matriculation into the University.

Option in Performance: Acting/Directing (code 2-5847)

Theatre Arts 214, 216A or B, 316A or B, 426, and 16 units approved from Theatre Arts 310A,B, 312, 318 six units, 324, 325, 331 six units, 352, 361, 363, 375, 380, 414, 416, 431, 432, 443, 452, 459A,B, 470A,B, 474, 490, 498.

Option in Technical: Scenery/Costume/Lighting Design (code 2-5848)

Theatre Arts 341, 444, 446, 448 and 12 units approved from Theatre Arts 342, 347, 440A,B, 443, 444, 445, 447, 470A, 470B, 490, 498.

Option in Children's Theatre (code 2-5845)

Theatre Arts 352, 353, 356, 358, 452, 459A,B and seven units of electives.

Master of Arts Degree in Theatre Arts

A program of study leading to the master of arts degree in theatre arts is offered. For detailed information concerning the requirements see the *Graduate Bulletin*.

Lower Division

010. Theatre Arts Showcase (0) F, S Faculty
Participation in weekly programs dealing with all aspects of theatre arts. Required of theatre arts majors each semester.

110A,B. Theatre Arts Activity—Cast (1,1) F, S Faculty
Participation in acting; open to students who expect to be cast in either afternoon or evening University-sponsored productions; major cast assignment or equivalent required.

112. Stage Diction (3) F, S Faculty
Theory and practice in developing command of oral techniques for stage.

113. Introduction to Acting (3) F, S Faculty
Review of actors and acting, past and present; their work as artists; basic exercises in voice, diction, movement and personality projection. Open only to non-theatre arts majors.

114. Fundamentals of Acting (3) F Faculty
Development and preparation of the actor's instrument: voice, body, imagination. Exercises in relaxation, sensory work, motivations and relationships are utilized.

122. Appreciation of Theatre Arts (3) F, S Eggers, Rankin
Appreciation and understanding of the arts of the theatre for the non-drama major; standards for critical evaluation of contemporary theatre including stage, screen and TV; lecture, discussion, field trips and written critiques; not open to students with credit in Theatre Arts 124.

124. Introduction to World Theatre and Drama (3) F, S Lyman, Stiver
Introduction to all aspects of theatre, including criticism, dramatic literature, movements, themes, historical background and theatrical production from different parts of the world. (Same course as Comparative Literature 124.)

140A,B. Theatre Arts Activity—Crew (1,1) F, S Faculty
Participation in technical play production activities of either afternoon or evening University-sponsored productions; specific assignments determined at initial meeting; 45 hours minimum participation time plus major crew assignment or equivalent required.

210A,B. Theatre Arts Activity—Cast (1,1) F, S Faculty
Prerequisite: Sophomore class standing. Participation in acting; open to students who expect to be cast in either afternoon or evening University-sponsored productions; major cast assignment or equivalent required.

214. Intermediate Acting (3) F, S Faculty
Prerequisite: Theatre Arts 112, 114. Introduction to scene study. Application of techniques of body, voice and imagination to dramatic texts thereby stimulating an acting process for the development of a role. Should be taken directly following Theatre Arts 114.

216A,B. Rehearsal and Performance (2,2) F, S Lyman
Prerequisite: Theatre Arts 214 and/or consent of instructor. Preparation and rehearsal for performance in short scenes, one-act plays and University-sponsored productions; no more than four units of Theatre Arts 216 and/or Theatre Arts 316 may be applied toward the major.

240A,B. Theatre Arts Activity—Crew (1,1) F, S Faculty
Prerequisite: Sophomore class standing. Participation in technical play production activities of either afternoon or evening University-sponsored productions; specific assignments determined at initial meeting; 45 hours minimum participation time plus major crew assignment or equivalent required.

242. Elementary Stagecraft (2) F, S Skalka
Basic physical equipment of the theatre: elementary scenic drafting, construction, assembly and scene painting. Preparation of scenic and property elements for University-sponsored productions. To be taken concurrently with Theatre Arts 248.

244. Stage Make-up (2) F, S Smith
Practical introduction to techniques of theatrical make-up. Male students must be clean-shaven because of the nature of the course. Preparation of make-up materials for University-sponsored productions. To be taken concurrently with Theatre Arts 246.

246. Costume Crafts (2) F, S Camburn
Techniques of costume and accessory construction for the stage; use of fabrics, materials and equipment. Preparation of costumes and accessories for University-sponsored productions. (To be taken concurrently with Theatre Arts 244.)

248. Stage Lighting (2) F, S Green, Skalka
Theory and practice of modern stage lighting; functions of light; design of lighting layout; properties of various instruments; practical experience in the hanging and focusing of lighting equipment for University-sponsored productions. To be taken concurrently with Theatre Arts 242. Not open to students with credit in Theatre Arts 348 prior to Fall Semester, 1978.

270. Summer Theatre (1-6) SS Faculty
Preparation, rehearsal and public performance of University-sponsored productions in an organized summer theatre similar to professional stock company; students devote full time in all phases of production. Amount of credit dependent upon amount of participation. Not more than eight units total credit in any combination of 270 and 470 may apply toward the B.A. degree.

Upper Division

310A,B. Theatre Arts Activity—Cast (1,1) F, S Faculty
Prerequisite: Junior class standing. Participation in acting; open to students who expect to be cast in either afternoon or evening University-sponsored productions. Major cast assignment or equivalent required.

312. Advanced Stage Diction and Dialects (3) Even years Faculty
Prerequisite: Theatre Arts 112 or equivalent. Advanced study and special problems in stage speech and a study of special dialects for the stage.

313. The Screen Actor (3) F, S Kahan
Study of major screen performances by outstanding actors and actresses of the past and present. Discussion of the different types of screen acting including character acting, romantic acting, comic acting and impersonation. Regular screening of full length films.

316A,B. Rehearsal and Performance (2,2) F, S Lyman
Prerequisite: Theatre Arts 214 and/or consent of instructor. Preparation and rehearsal for performance in short scenes, one-act plays and University-sponsored productions; no more than four units of Theatre Arts 216 and/or Theatre Arts 316 may be applied toward the major.

318. Advanced Scene Study (3) F Appel, MacArthur, Shoup
Prerequisites: Dance 162, Theatre Arts 214, 216A,B, 316A,B and/or consent of instructor. Intensive scene study in modern dramatic texts. The class is designed to continue and strengthen the process of role development for the actor through scenic exercises. May be repeated to a maximum of six units.

321. History of the Theatre and Drama to 1660 (6) F Bailor, MacArthur
Development of theatre arts from primitive origins through Moliere. Not open to students with three units of credit in Theatre Arts 321.

322. History of the Theatre and Drama Since 1660 (6) S Bailor, MacArthur
Prerequisite: Theatre Arts 321 or consent of instructor. Development of theatre arts from the Restoration to the present. Not open to students with three units of credit in Theatre Arts 322.

324. World Theatre Today (3) S Lyman, Rugg
Current trends, problems and achievements of the theatre of the present day from an international point of view, with an examination of influences of the avant-garde movement of post World War I (Expressionism, Dada, Surrealism, the Absurd, Existentialism). (Same course as Comparative Literature 324.)

325. Asian Theatre and Drama (3) F Shoup
History and background of Asian theatre; style of execution and production; influence of Asian theatre on Europe and America; emphasis on India, China and Japan. (Same course as Comparative Literature 325.)

331. Acting for the Musical Theatre (3) S Kahan, Shoup
Prerequisite: Theatre Arts 114 and/or consent of instructor. Problems of performing in opera, operetta and musical comedy. May be repeated to a maximum of six units.

340A,B. Theatre Arts Activity—Crew (1,1) F, S Faculty
Prerequisite: Junior class standing. Participation in technical play production activities of either afternoon or evening University-sponsored productions; specific assignments determined at initial meeting; 45 hours minimum participation time plus major crew assignment or equivalent required.

341. Graphics for the Theatre (3) F Camburn
Interpretation of form, architecture, landscape, drapery and the costumed figure for the theatre designer through basic drawings, watercolor, gouache and mixed media. (No previous art training required.)

342. Advanced Technical Theatre (3) F, S Duckwall, Skalka
Prerequisite: Theatre Arts 242. Scene painting, scenic drafting, problems of rigging and mounting various stage productions. Supervision in the practical application of these elements in University-sponsored productions. Not open to students with credit in Theatre Arts 342A,B.

344. Theatre Decor (3) S Camburn
Chronological study of interior and exterior architecture, stylistic trends, furniture and decorative accessories and their application for the theatrical director, designer and technician.

346. Costume History for the Stage (3) F, S Camburn, Duckwall
Chronological study of fashions, modes and mores of major historical periods and their application in contemporary stage productions.

347. Advanced Costume History (3) F Camburn
Prerequisite: Theatre Arts 346 or equivalent. Specialized consideration of historical costume periods for the theatre designer. Emphasis on research source, textiles, color, structure and technical reproduction for the stage.

349. Production Lighting (2) F, S Green, Skalka
Study of contemporary lighting practices and basic lighting design for production forms other than conventional drama.

352. Creative Drama (3) F, S Rugg, Smith
Theory and techniques of developing creative capacities through improvisation and original dramatizations; participation and leadership in creative dramatics.

353. Dramatic Literature for Children's Theatre (3) F Rugg
Survey of dramatic literature for the child audience.

356. Puppetry (3) S, odd years Faculty
Introduction to the history and forms of puppetry. Practical experience in productions of puppet plays.

358. Recreational Dramatics (3) F, S Rugg
Problems of staging theatrical productions, puppet shows, variety programs, plays at community recreation centers. Story dramatization, dramatic games, simplified staging techniques appropriate to recreation programs.

361. Improvisations in Mime (3) F Hamilton
Prerequisite: Theatre Arts 114. Use of an improvisational structure to introduce mime styles for developing characterization, expression of emotion and drama narrative needed in the various historical periods in theatre.

363. Mime (3) F, S Hamilton
Prerequisites: Dance 162, Theatre Arts 114, 361 or consent of instructor. Technique of classical mime. Use of the human body as an instrument for the expression of emotions, dramatic narrative and characterization.

374. Fundamentals of Play Direction (3) F, S Lyman, Stiver
Prerequisites: Theatre Arts 114, 124, 242, 246, Dance 162 and consent of instructor. Interpretation of the play; casting; composition and movement; vocal techniques; tempo and climax; organization of production staff. For theatre arts majors and minors only.

375. Intermediate Play Direction (3) F Stiver
Prerequisites: Theatre Arts 214, 374, 321 or concurrent enrollment and consent of instructor. Intensive study of thematic structure; director-actor relationship; individual characterization; special problems of working with the new play, comedy and nonrealistic theories; workshop in directing scenes.

380. Playwriting (3) F, S Lyman
Creative writing for the stage. General consideration of realistic and non-realistic theatrical styles and conventions; exercises in source, character development, dialogue, plot, structure. Students will develop a one-act play and discuss one another's scripts in a workshop format. Selected scripts may be produced at the end of the semester.

410A,B. Theatre Arts Activity—Cast (1,1) F, S Faculty
Prerequisite: Senior class standing. Participation in acting; open to students who expect to be cast in either afternoon or evening University-sponsored productions. Major cast assignment or equivalent required.

414. Period Scene Study (3) F, S Appel, MacArthur, Shoup
Prerequisites: Theatre Arts 318 and/or consent of instructor. Scenic exercises in period plays. Analysis of the play's structure in terms of language, socio-political background, human behavior. Exercises in scenes from Greek, Shakespeare, Comedy of Manners, Farce. May be repeated to a maximum of six units.

416. Rehearsal and Performance in Acting Styles (2) F, S Stiver
Prerequisite: Theatre Arts 414. Rehearsal and performance of scenes from various periods in theatre history. In addition, scenes and one-act plays will be rehearsed and prepared for performance at the end of the semester.

421. Classical Drama (3) F Faculty
Greek and Roman drama, in translation. (Same course as Comparative Literature 421.)

422. Renaissance Theatre and Drama (3) F Faculty
Prerequisites: Two courses in literature or theatre arts or consent of instructor. Achievements, problems, trends of Renaissance theatre and drama in Spain, France, Italy and England. (Same course as Comparative Literature 422.)

423. Continental Drama to Ibsen (3) S Faculty
European drama, in translation, from the Middle Ages to Ibsen, excluding British. (Same course as Comparative Literature 423.)

426. Dramatic Theory and Criticism (3) F Kahan
Study of dramatic types including tragedy, comedy and melodrama; major historical and modern criticism.

428. Selected Periods in Theatre and Drama (3) S Faculty
Prerequisites: Two courses in literature or theatre arts or consent of instructor. Study of special movements and periods in the history of drama and theatre, to be selected each semester. (Same course as Comparative Literature 428.)

431. Directing for the Musical Theatre (3) F Kahan, Shoup
Prerequisite: Consent of instructor. Direction and rehearsal of short scenes, one-acts and University-sponsored musical theatre productions. (Not open to students with credit in Theatre Arts 430A, formerly 166A.)

432. Lyric Theatre (3) F Kahan, Shoup
History and production techniques of musical theatre including the dramatic content and staging of the lyric drama: opera, operetta, ballet, musical comedy and musical drama.

440A,B. Theatre Arts Activity—Crew (1,1) F, S Faculty
Prerequisite: Senior class standing. Participation in technical play production activities of either afternoon or evening University-sponsored productions; specific assignments determined at initial meeting; 45 hours minimum participation time plus major crew assignment or equivalent required.

443. Advanced Stage Makeup (3) F, S Smith
Prerequisite: Theatre Arts 244. Makeup techniques for characterization, style and technical processes. Male students must be clean-shaven because of the nature of the course. Crew assignment required in University-sponsored productions.

444. Scene Design (3) F Camburn, Duckwall
Prerequisite: Theatre Arts 342A or consent of instructor. Creative planning and projects of designs for specific University-sponsored productions.

445. Period Scenic Design (3) S Camburn, Duckwall
Prerequisite: Theatre Arts 444 or consent of instructor. Creative planning of scenic designs for various types of period plays with emphasis on Greek, Elizabethan, 18th and 19th century dramas.

446. Costume Design (3) F, S Camburn, Crellin
Prerequisite: Theatre Arts 246 or equivalent. Technique of designing stage costumes of various historical periods; creative planning and projection of designs for specific University-sponsored productions. May be repeated once for credit.

447. Advanced Costume Crafts (3) S Odd years Camburn, Crellin
Prerequisite: Theatre Arts 246 or equivalent. Advanced technical problems in costume and accessory construction; production planning pattern drafting.

448. Stage Lighting Design (3) F Green, Skalka
Prerequisite: Theatre Arts 348 or equivalent. Techniques of designing lighting for various stage forms; creative planning and projection of designs for specific productions.

452. Advanced Creative Drama (3) S Rugg, Smith
Prerequisite: Theatre Arts 352 or consent of instructor. Practical application of creative drama techniques in leadership situations with children.

459A,B. Children's Theatre Production (2,2) F, S Rankin, Rugg
Preparation and rehearsal of various theatre forms to be produced for the child audience. Productions to be available to tour in the community.

470A,B. Ensemble Production (3,3) F, S Faculty
Prerequisites: Consent of instructor and director of Studio Theatre. Preparation, rehearsal and performance in University-sponsored Studio Theatre productions.

474. Advanced Play Direction (3) F, S Stiver
Prerequisites: Theatre Arts 375, consent of instructor. Consideration of problems in directing period styles, contemporary non-matrix theatre forms and original scripts. Course will culminate in a free public performance of exerpts, published one-act plays, and/or material submitted from the playwriting classes. May be repeated to a maximum of six units.

476. Theatre Management (3) F Eggers
Examination of administration, management and promotion of a producing theatre organization; practical application required in University-sponsored productions.

480. Advanced Playwriting (3) F Lyman
Prerequisite: Theatre Arts 380 or consent of instructor. Advanced creative writing for the stage. Emphasis on an examination and creation of alternate theatre forms: scripts from improvisation and/or non-matrix material; one of the Absurdist styles; political theatre; material suited to environmental theatre. Selected material to be produced as part of an annual Spring Festival of Alternate Theatre.

490. Special Topics in Theatre Arts (1-3) On demand Faculty
Prerequisite: Consent of instructor. Topics of current interest in theatre arts selected for intensive study. May be repeated for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

498. Special Studies in Theatre Arts (3) F, S Faculty
Prerequisite: Consent of instructor and department chairperson (consent of instructor and graduate coordinator if taken for graduate credit). Independent projects and research of advanced nature in the area of theatre arts under faculty supervision. Limited to six units in any one area. Area will be designated by letter at time of registration as (a) acting, (b) directing, (c) costume, (d) scenery, (f) playwriting, (g) children's theatre, (h) theatre management, (i) dance, (j) theatre history, (k) theatre criticism, (m) makeup, (n) lighting.

Graduate Division

514. History and Theory of Acting (3)

524. Aesthetics of the Theatre (3)

542. Architecture of the Theatre (3)

570A,B. Ensemble Production Practicum (3,3)

574. History and Theory of Directing (3)

621A,B. Seminar in Theatre History and Dramatic Literature (3,3)

623A,B. Seminar in Contemporary Theatre (3,3)

626A,B. Seminar in Dramatic Theory and Criticism (3,3)

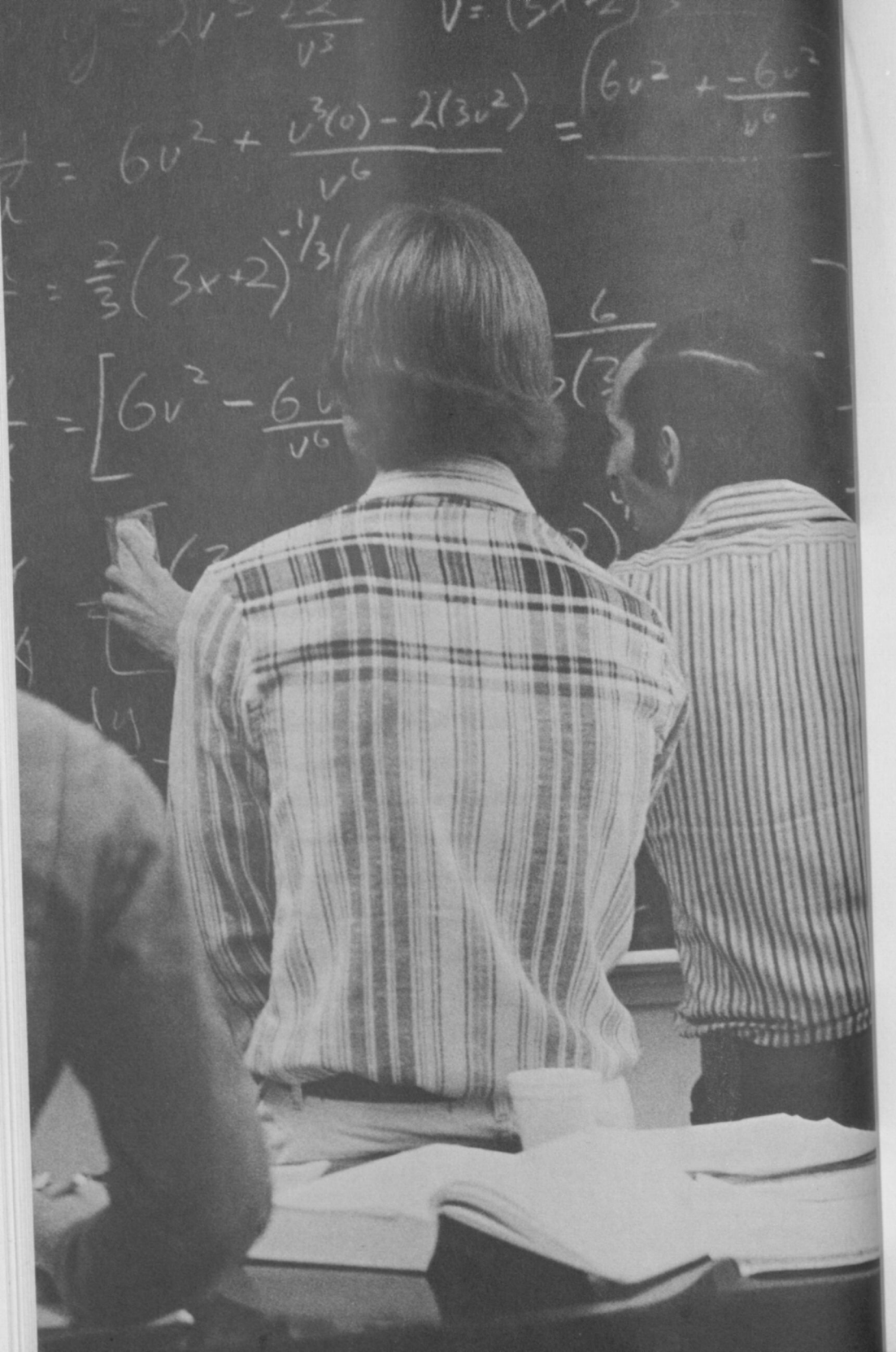
642A,B. Seminar in Theatre Decor (3,3)

694. Advanced Studies in Theatre Arts (3)

696. Research Methods (3)

697. Directed Research (2)

698. Thesis or Project (1-4)



School of Humanities

Administrative Officers

Ronald L. Applbaum	Dean of the School	HOB-215
Charles W. Austin	Associate Dean, Instructional Support	HOB-208
Mary Purcell	Associate Dean, Educational Policy	HOB-204

Directory of Departments

Department	*Chair*	*Dept. Offices*
Communicative Disorders	Dr. Bruce Ryan	LAB-112
Comparative Literature	Dr. Thomas Hubble	HOB-517
English	Dr. Eileen E. Lothamer	HOB-419
French-Italian	Dr. F. M. Swensen	FO2-226
German, Russian and Classics	Dr. Johanna W. Roden	HOB-808
Journalism	Mr. Benjamin H. Cunningham	SS/PA 024
Mathematics	Dr. Arthur P. Gittleman	FO5-118
Philosophy	Mr. William M. Johnson	HOB-917
Radio-Television	Dr. Robert G. Finney	FA1-201
Spanish-Portuguese	Dr. Daniel Cárdenas	HOB-818
Speech Communication	Dr. Karl Anatol	HOB-717

Other School Offices

American Language Program	Dr. Stephen B. Ross	HOB-610
American Studies	Dr. Albert F. Gunns	HOB-201
Language Skills	Mrs. Kakwasi Somadhi	HOB-619
Linguistics	Dr. Janet Sawyer	HOB-408
Mediaeval and Renaissance Studies	Dr. Francisco L. Peccorini	HOB-901
Mediterranean Studies	Dr. Mary Purcell	HOB-204
Religious Studies	Dr. Alexander Lipski	HOB-618
Speech and Hearing Clinic	Dr. Virginia G. Warren	LAB-112

American Language Program

The American Language Program is a series of semi-intensive courses in English as a second language. The courses are designed for international students holding student visas, permanent residents and certain immigrants who have significant difficulty in their use of English. All visa and PR students must take the Examination in English as a Second Language (EESL) if English is not their first language or their primary language of instruction before coming to the United States.

Depending upon the results of the EESL test (and TOEFL, if available), students will either be placed in American Language Program courses during the first semester(s) of their enrollment or waived from the program entirely. Exemption from these courses can be granted only by superior test scores or waiver by the student's graduate coordinator. If students must take American Language Program courses, the number of other courses will be adjusted accordingly. The requirements that students take the EESL test and complete American Language Program courses as indicated cannot be postponed. This also applies to transfer students, both undergraduate and graduate.

Elective credit is given for all American Language Program courses. However, admission and release from the program is determined by the student's level of language performance, and not merely by courses completed, here or elsewhere.

Lower Division

121. American Language Program I (6) F, S Faculty
Intensive study of English as a second language, including grammar, composition, vocabulary, conversation, reading and comprehension. Twelve class hours per week.

122. American Language Program II (2) F, S Faculty
Study of English as a second language, emphasizing reading and research writing. May be taken concurrently with American Language Program 123. Four class hours per week.

123. American Language Program III (1) F, S Faculty
Study of English as a second language, emphasizing reading and expository writing. May be taken concurrently with American Language Program 122. Two class hours per week.

124A-B. American English Phonology (3,2) F, S Faculty
Essentials of perceiving and articulating American English sounds in context. Individual laboratory work also required.

125. American Language Program IV (3) F, S Faculty
Study of English as a second language, emphasizing rhetoric and oral style. Five class hours per week.

American Studies

American Studies

Program Director: Dr. Albert F. Gunns (History).

Faculty Advisers: Cunningham (Journalism), Fine (English), Higgins (History), Leiter (Political Science), Levine (Comparative Literature), Nelson (English), Outwater (Geography), Peck (English), Pomeroy (English), Scott (Political Science).

American studies is an interdisciplinary program leading to the bachelor of arts degree. The major consists of (1) a series of core courses designed to explore particular issues and problems in American civilization, utilizing interdisciplinary methods and materials, (2) a breadth requirement in American literature and intellectual history, and (3) a sequence of elective courses from various departments chosen in accordance with the student's area of interest.

In addition to providing a broad liberal education focusing on American culture, traditions and institutions, the major in American Studies offers a useful background for students planning to enter professional careers in teaching, law, library science, journalism, public service, government and business. The program also provides the foundation for graduate work in American studies and related fields.

In preparation for the upper division major in American studies, students are expected to have completed lower division courses appropriate as background to the study of American culture. Students planning to major in American studies should consult the program director or one of the above-named faculty advisers early in their academic careers for general education and preparatory course recommendations and for teaching credential information.

Major in American Studies for the Bachelor of Arts Degree (code 2-6004)

A minimum of 35 units distributed as follows:

Core Course Requirement: American Studies 300, 490, 498 (nine units).

Breadth Requirement: English 370A,B; History 476A,B or 477A,B (14 units).

A. *American Institutions:* Criminal Justice 301 or 403; Economics 360 or History 475; History 479A,B, 489, Political Science 314, 315; Home Economics 312 or 413 or Sociology 320; Political Science 391; Political Science 322 or 423 or 424.

B. *The American People:* American Indian Studies 100 or Anthropology 321; Anthropology 347; Asian American Studies 200 or 220; Black Studies 120 or History 486; History 476A,B; Home Economics 312 or 413 or Sociology 320; Mexican American Studies 100 or 300; Sociology 445.

C. *The American Environment:* Biology 203 or 300; Geography 160, 204, 304, 306; History 471A,B, 472, 474; Sociology 419; Urban Studies 201 or 401; Economics 305 or Geology 305.

D. *The Arts and Communication in America:* American Indian Studies 320 or Art 411C; Art 317B, 413A,B; Black Studies 140 or 155 or 340; English 474, 475, 476, 477A,B, 478; Journalism 115; Music 393; Radio-TV 100, 406.

E. *The American Mind:* No more than two from American Indian Studies 335, Asian American Studies 380, Black Studies 400, Mexican American Studies 310; English 474, 475, 476, 477A,B, 478; History 482; Philosophy 304, 316; Political Science 308.

In lieu of one of the above thematic sequences, an American studies major, working closely with an adviser, may design an elective pattern. This pattern, reflecting a balanced and coherent program, must be approved by the program director before the student enrolls in the final 12 elective units. Examples of topics for student-designed patterns are *Popular Culture in America* and *Women in America.*

Minor in American Studies (code 0-6004)

A minimum of 18 units, including American Studies 300, 490 and 498. Additional courses shall be chosen from the following list (from at least two of the categories). Appropriate courses in departments and areas not represented below, such as Women's Studies and Ethnic Studies, may be substituted with the written approval of the program director. Some of the following courses have prerequisites:

A. English 370A, 370B.

B. History 476A, 476B, 477A, 477B.

C. Art 413A, 413B, Music 393.

D. Geography 306, Philosophy 304, 316, Political Science 308.

Lower Division

100. Popular Arts in America (3) F, S Faculty
Survey of the popular arts, leading to an increased appreciation and understanding of the part played by the popular arts in American life. Films, videotapes, popular music recordings are used to exemplify the conventions and themes of our popular culture. Not open to students with credit in Radio-Television 100.

190. Topics in American Studies (1-4) F, S Faculty
Exploration of a significant topic, theme, issue or problem in American culture, using interdisciplinary materials and methods. Topics shall be listed in the *Schedule of Classes.*

Upper Division

300. Introduction to American Studies (3) F, S Fine
Interdisciplinary approaches to the study of American civilization. Significant issues and problems in American life will be examined from the perspectives of several disciplines.

490. Special Topics in American Civilization (1-4) F, S Faculty
Prerequisite: American Studies 300. Intensive study of a selected major theme in American civilization using materials drawn from a variety of disciplines. May be repeated with a different topic for elective credit toward the major requirements if appropriate to the student's area of specialization. Topics to be announced in the *Schedule of Classes.*

498. Senior Colloquium in American Studies (3) On demand Faculty
Prerequisite: American Studies 300. Investigation of significant problems in American civilization using interdisciplinary methods and materials and culminating in an original research paper or project related to the student's area of specialization. This course is designed as the capstone to the degree program and is open to seniors only.

499. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Independent study of American culture taken under the supervision of a faculty member.

Communicative Disorders

Department Chair: Dr. Bruce Ryan.
Professors: Cooper, Larr, Partridge, J. Thompson, Yates.
Associate Professors: Beattie, Craven.
Assistant Professor: Warren.
Academic Advising Coordinator: Dr. Duane C. Craven.

The Communicative Disorders Department provides specialized course work for students planning careers in speech pathology or audiology. Departmental majors may complete work leading to bachelor of arts and/or master of arts degrees, as well as Certificates of Clinical Competence in either audiology or speech pathology from the American Speech and Hearing Association and the requirements for licensure by the State of California. The graduate program has accreditation from the Education and Training Board of the American Speech and Hearing Association.

Students seeking special education credentials may enroll for required credential course work. Students in allied health fields and linguistic sciences will find courses to implement their regular majors.

To provide clinical experience for its majors, the department maintains a speech and hearing clinic on campus and branch clinics in adjacent communities.

Students who desire to specialize in audiology and those who wish to complete requirements for Certificates of Clinical Competence from the American Speech and Hearing Association should consult with a departmental adviser regarding additional course work necessary.

Major in Communicative Disorders for the Bachelor of Arts Degree (code 2-6842)

Students desiring a bachelor's degree in communicative disorders must complete the following required courses:

Lower Division: Three units from Speech Communication 130, 131, 132, 133; three units from Speech Communication 246, 271.

Upper Division: Communicative Disorders 360, 361, 362, 366, 371, 373, 480, 481, Speech Communication 447 and one course from Communicative Disorders 431, 466, 474, 476.

Admission to the Professional Program in Communicative Disorders

The professional program provides the academic and clinical course work necessary to complete degree, credentialing, licensing and ASHA certification requirements necessary for providing speech pathology or audiology services to the public. Students wishing to be admitted to this program must apply to the Department Admissions Committee. Therefore, the applications shall be evaluated by the following departmental criteria.

1. A grade point average of 2.75 or better in all previous college or university course work.
2. A series of tests to assess the applicant's ability in logical thinking and problem solving, writing, reading and speech proficiency.
3. Have transportation available for travel to off-campus clinical facilities.
4. A grade point average of 2.75 or better in Communicative Disorders 360, 361, 371, 373.
5. Submit transcripts and course descriptions of those communicative disorders courses which have been completed at other universities to the Department Admissions Committee. These transcripts are in addition to any which have been submitted to the University Admissions and Records Office.

Students meeting the minimum criteria will be placed in the group of students who will be selected for entrance into the professional program. If more students are available than positions in the program for students, selection will be made on a randomized choice basis.

Students who do not meet the criteria g.p.a. of 2.75 for item 4 may use a grade of B or better obtained in Communicative Disorders 366 to replace one criteria course in which the student has received at least a C grade.

Applications for admission to the professional program must be submitted by March 1 for admission by September 1 and October 1 for admission by January 15.

Students who are admitted to the professional program may enroll in Communicative Disorders 389. Upon successful completion of Communicative Disorders 389, the student may then enroll in Communicative Disorders 469, Clinical Practice. Communicative Disorders 389 and 469 units may be used as electives toward meeting B.A. graduation requirements.

Credentials for Service in Public Education

Students who wish to complete credentials for service as language, speech and hearing specialists, educational audiologists or teachers of the severely oral language handicapped must be admitted to the professional program in communicative disorders.

Clinical Rehabilitative Services-Language, Speech and Hearing Specialist

A. The following courses are required to complete the Clinical Rehabilitative Services-Language, Speech and Hearing Credential: Communicative Disorders 360, 361, 366, 371, 373, 389, 466, 476, 478, 480, 481, 564, 570, 572; Educational Psychology 350, 451, 464; Health Science 411.

B. Supervised Clinical Experience: Students must complete as many units of Communicative Disorders 469, 479, 669, Educational Psychology 486A (5) to complete a minimum of 300 clock hours of supervised clinical experience with children. At least 100 hours of the supervised clinical experience must be completed in a school environment.

Clinical Rehabilitative Services-Audiologist

A. The following courses are required to complete the Clinical Rehabilitative Services-Audiologist credential: Communicative Disorders 360, 361, 366, 371, 373, 389, 430, 431, 474, 478, 480, 481, 530, 564, 570, 572, 574.

B. Supervised Clinical Experience Students must complete as many units of Communicative Disorders 469, 479, 679, to complete a minimum of 300 clock hours of supervised clinical experience with children. At least 100 hours of the supervised clinical experience must be completed in a school environment.

Specialist in Special Education—Communication Handicapped

Students who wish to begin completing this credential must either:

A. Hold a valid teaching credential or complete a multiple-subjects or single-subjects teaching credential in the School of Education.

B. In addition, the student must complete the following generic special education courses: Educational Psychology 350, 360, 451, 464; Health Science 411.

C. The following courses are required to complete the Communication Handicapped Specialist in Special Education Credential: Communicative Disorders 360, 361, 362, 366, 373, 389, 431, 466, 476, 478, 480, 481, 564, 570, 572.

D. Supervised Clinical Experience: Students must complete as many units of Communicative Disorders 469, 479, 669, Educational Psychology 486A (10) to complete a minimum of 300 clinical clock hours of supervised experience with children. At least 100 hours of clinical experience and teaching children with communication handicaps must be in a school environment.

Master of Arts Degree in Communicative Disorders

A program of study leading to the master of arts degree in communicative disorders is offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

060. Speech Improvement (1) F, S Faculty
For students with speech defects that are not amenable to correction in other speech courses. May be repeated for credit to a maximum of two units.

Upper Division

360. Voice Science (3) F Larr, Partridge
Speech process as an organic and acoustic phenomenon. Anatomy, physiology, neurology and acoustics of speech and voice. Design for students planning to enter the clinical program in communicative disorders. Not open to students with credit in Communicative Disorders 471.

361. Language and Speech in Normal and Exceptional Children (3) F, S Partridge, Yates
Examination of language development as learned and as psychodynamic behavior. Procedures for differential diagnosis and remediation.

362. Psychology of Communicative Disorders (3) F, S Craven, Thompson, Yates
Prerequisite: C.D. 361. Psychological aspects of communicative disorders and their implications for the speech and hearing pathologist.

366. Speech Pathology I (4) F, S Craven, Partridge, Thompson
Prerequisites: C.D. 361, 371. Historical and interpersonal features of human communicative dysfunctions. Survey of major communicative disorders. Behavioral, pathological, diagnostic and therapeutic principles of functional speech disorders.

371. Phonetics (3) F, S Faculty
Phonetic basis of speech sounds and the various factors which influence pronunciation. Consideration is given to linguistic variations, regional dialects and standards.

373. Principles of Audiometry I (3) F, S Beattie, Larr, Warren
Anatomy and physiology of the hearing mechanism; administration and interpretation of audiometric and testing results, organization of hearing conservation programs. Designed for students planning to enter the clinical program in communicative disorders. Not open to students with credit in Communicative Disorders 473.

385. Coping with Communication Problems of the Aging (3) S Thompson, Warren
Physical, physiological, environmental and emotional factors of aging which affect the hearing and speaking processes; procedures for improving communication skills of the aged; techniques for reestablishing and maintaining communications with elderly persons who have severe hearing, language or speech deficits. Not open to students with credit in Communicative Disorders 485.

389. Introduction to Clinical Methods (3) F, S Faculty
Prerequisite: Admission to professional program. Introduction to the nature of programming for therapy. Focus on operant procedures, data collection, charting, parent counseling; clinician-client relationships. Videotapes; observation. (Lecture 2 hours, laboratory 3 hours.)

430. Hearing Science (3) F Beattie
Prerequisite: C.D. 373. Provides an understanding of how the normal hearing observer responds to selected acoustic signals. Parameters include dB notation, physics of sound, difference limens, temporal phenomena, binaural hearing, masking and adaptation.

431. Pediatric Audiology (3) S Warren
Prerequisite: C.D. 373. Etiologic factors, assessment of auditory function, implications of impairment, selection of hearing aids, remedial programs, counseling parents—emphasis on hard-of-hearing infants and children. (Lecture 2 hours, laboratory 3 hours.)

466. Speech Pathology II, Stuttering (3) F, S Craven, Thompson
Prerequisite: C.D. 366. Etiology, evaluation and therapy for stuttering, cluttering and other disorders of rhythm.

469. Clinical Practice in Speech Disorders (1-6) F, S Faculty
Prerequisites: C.D. 389 and consent of instructor. Student conducts individual and group speech therapy under clinical supervision. Forty-five hours required for each unit. May be repeated for credit to a maximum of six units.

474. Audiometry II (3) S Beattie, Warren
Prerequisite: C.D. 373. Advanced audiometry; refined techniques in speech audiometry, use of masking, objective and automatic audiometry; differential diagnosis in audiology.

476. Speech Pathology III, Disorders of Voice (3) S Faculty
Prerequisites: C.D. 360, 366. Etiology, diagnosis and therapy of voice, cleft palate and oro-facial abnormalities, including voice problems of the cerebral palsied, hard of hearing and deaf.

478. Language and Speech of the Culturally Different (3) F, S Faculty
Linguistic-cultural differences in relation to the language and speech development of minority children; dialectal and language style differences and their clinical and educational implications.

479. Clinical Practice in Hearing Disorders (1-6) F, S Beattie, Larr, Warren
Prerequisites: C.D. 373, 480 and consent of instructor. Student conducts individual and group hearing therapy under clinical supervision. Forty-five clock hours required for each unit. May be repeated for credit to a maximum of six units.

480. Hearing Pathology I (3) S Larr, Warren
Prerequisite: C.D. 373. Introduction to hearing pathology, etiology of hearing impairment. Principles of acoustics, auditory training and audiological research. Visual communication, speech and language development of the deaf.

481. Language Pathologies (4) F, S Yates
Prerequisites: C.D. 360, 366. Language and speech disorders resulting from deviant neurological development or control as manifested in children and adults.

485. Communicative Disorders of Aging (3) S Thompson, Warren
Prerequisites: C.D. 476 and 481 or equivalent courses or consent of instructor. Characteristics of the aging process; communicative disorders of aging; etiology, assessment, rehabilitation therapy; interdisciplinary approach to the rehabilitation and maintenance of communication skills.

490. Special Studies in Communicative Disorders (1-3) F, S Faculty
Open only to communicative disorders majors with senior or graduate standing and consent of department chairperson. Individualized laboratory or library research selected in consultation with instructor. Written report of the research is required. Not acceptable for graduate credit toward the master's degree. May be repeated to a maximum of six units.

499. Directed Studies in Communicative Disorders (1-3) F, S Faculty
Prerequisite: Consent of instructor. Independent study under supervision of a faculty member. May be repeated for a maximum of six units. Not acceptable for graduate credit toward the master's degree.

Graduate Division

530. Audiological Instrumentation (3)

564. Parent Counseling in Speech Correction (3)

570. Organization and Administration of Speech and Hearing Services (2)

572. Diagnosis of Communicative Disorders (3)

574. Hearing Aids (3)

662. Seminar in Language Pathology (3)

663. Seminar in Speech Pathology (3)

669. Advanced Clinical Practice in Speech Pathology (1-6)

674. Seminar in Audiology (3)

679. Advanced Clinical Practice in Audiology (1-6)

696. Research Methods (3)

697. Directed Research (1-3)

698. Thesis or Project (1-4)

Comparative Literature

Department Chair: Dr. Thomas Hubble.

Professors: Carr, Hubble, Markman.

Associate Professors: Bush, Jernigan.

Academic Advising Coordinator: Dr. Thomas Hubble.

The goal of a comparative literature major is a broad, liberal education based on a comparative study of the world's great literatures in translation and on the relationship of those literatures to history, philosophy, language, the fine arts, and creative writing.

The bachelor's degree in comparative literature is designed to provide a basis for the following areas of professional specialization: (1) graduate study in comparative literature, English, foreign languages and other related areas; (2) teaching of literature, folklore and mythology, and foreign language; (3) government work, international relations, and business administration, particularly those areas of government and business work which require an extensive knowledge of foreign cultures and the ability to communicate well, both in English and in a foreign language.

Major in Comparative Literature for the Bachelor of Arts Degree (code 2-6832)

Option I

51 units to be distributed as follows:

Comparative Literature: 24 units (at least 18 of which must be upper division) selected from courses within the Comparative Literature Department. English 398, 431, and 489 may be used to partially satisfy this requirement. No more than nine units in comparative literature/theatre arts courses may be used to satisfy this requirement without special consent of the department.

Primary Concentration: 15 upper division units from any one of the following: English, English/creative writing, foreign language, philosophy, religious studies, music history, art history, history, or theatre arts. (If this concentration is English or foreign language, 12 of these units must be in literature. If the concentration is English/creative writing, 12 units of creative writing will be permitted, with the remaining units in literature. If the concentration is theatre/drama, courses in dramatic literature may be chosen from English, theatre arts, foreign languages or comparative literature/theatre arts courses.)

Secondary Concentration: 12 upper division units (nine of which must be in literature) in one foreign language. In the case of languages offering a limited number of courses, the equivalent of four semesters of college study will suffice. If a foreign language has been chosen for the primary concentration, the student may elect the secondary concentration in English, English/creative writing, another foreign language, philosophy, religious studies, music history, art history, history, or theatre arts (nine units of which must be in comparative literature/theatre arts).

Option II: World Literature

This option is primarily designed for the student who wants a broad background in world literature in translation allied with a strong concentration in one specific field.

This option is also designed for the student who elects the program approved for the single subject credential in English as the concentration to satisfy the requirements for the single subject credential under the Ryan Act. Department advisement is necessary.

48 units to be distributed as follows:

Comparative Literature: 24 units (at least 18 of which must be upper division) selected from courses within the Comparative Literature Department. English 398, 431 and 489 may be used to partially satisfy this requirement. No more than nine units in comparative literature/theatre arts courses may be used to satisfy this requirement without special consent of the department.

Concentration: 24 upper division units from any one of the following: English, English/creative writing, foreign language, philosophy, religious studies, music history, art history, history or theatre arts. (If the concentration is English/creative writing, 12 units of creative writing will be permitted, with the remainder in literature. If the concentration is theatre/drama, courses in dramatic literature may be chosen from English, theatre arts, foreign languages or comparative literature/theatre arts courses.)

Foreign Language Examination: A basic reading examination in a foreign language will be administered to test a student's reading proficiency. Four semesters of college study of a foreign language (or equivalent) may be used in lieu of an examination.

Option III: Interdisciplinary Studies

This option is designed to allow the student, with the aid of a faculty committee, to create an interdisciplinary program of study founded in literature.

48 units to be distributed as follows:

Comparative Literature: 24 units (at least 18 of which must be upper division) selected from courses within the Comparative Literature Department.

Concentration: 24 upper division units to be arranged in an interdisciplinary pattern by the student in cooperation with a faculty committee. It will be the responsibility of the faculty committee to be sure that the student's program is academically defensible. The committee will be chosen by the student and will consist of two full-time professors in comparative literature and one full-time professor from another discipline. The student's program must be established by the end of the first semester of the junior year. All students wishing to participate in this option must receive permission from the department chairperson before beginning the program.

Minor in Comparative Literature (code 0-6832)

In addition to the bachelor of arts degree in comparative literature, the department offers a minor in comparative literature. The minor provides a flexible program for the student majoring in another discipline, but who is interested in comparative literature either for professional advantages or for intellectual enrichment.

Requirements for the Minor in Comparative Literature:

A minimum of 18 units in comparative literature, of which at least 12 are selected from *any* of the department's upper division offerings excluding Comparative Literature 499.

Lower Division

124. Introduction to World Theatre and Drama (3) F, S Bush, Carr, Hubble, Jernigan, Markman
Introduction to all aspects of theatre, including criticism, dramatic literature, movements, themes, historical background and theatrical production from different parts of the world. (Same course as Theatre Arts 124.)

230. Introduction to World Literature (3) F, S Bush, Carr, Hubble, Jernigan, Markman
Readings in translation from masterpieces of world literature with emphasis on the technique and form of literary art as developed in various cultures.

232. Folklore and Mythology (3) F, S Bush, Carr, Hubble, Jernigan, Markman
Introduction to mythology and folklore, with emphasis on myths of Eastern and Western civilization and their application in literature.

234. Introduction to Asian Literature (3) S Carr
Representative selections, in translation, from literature of the Near East, India, China and Japan. Not open to students with credit in Comparative Literature 439.

250. Literature and the Other Arts (3) F, S Bush, Carr, Hubble, Jernigan, Markman
Investigation of the interrelationships between the arts. Analysis of literary, fine art and music materials from ancient periods to the present in regard to movements, techniques, philosophies and formal organization to achieve artistic expression. Field experience and interviews with local artists.

Upper Division

324. World Theatre Today (3) S Bush, Carr, Hubble, Jernigan, Markman
Current trends, problems and achievements of the theatre of the present day from an international point of view with an examination of influences of the avant-garde movements of post World War I (Expressionism, Dada, Surrealism, the Absurd, Existentialism). (Same course as Theatre Arts 324.)

325. Asian Theatre and Drama (3) F Carr
History and background of Asian theatre; style of execution and production; influence of Asian theatre on Europe and America; emphasis on India, China and Japan. (Same course as Theatre Arts 325.)

330A,B. Survey of European Literature (3,3) F, S Bush, Carr, Hubble, Jernigan, Markman
Representative selections, in translation, from European writers to and since 1600, in relation to the development of Western civilization.

342. The Bible as Literature (3) S Jernigan, Markman
Reading of representative Biblical selections evaluated by literary criteria.

346. Readings in World Poetry (3) F Bush
Representative selections, in translation, from the poetry of the world, from the earliest examples to the present.

349. Literary Movements (3) F Bush, Carr, Hubble, Jernigan, Markman
Intensive study of a movement or theme in world literature. Specific movement or theme will be announced in the *Schedule of Classes*. (May be repeated for credit to a maximum of nine units by consent of instructor.)

402. Modern Folklore (3) F, S Carr
Origin and development of folk tradition from rural society to the modern city, with special emphasis on the folk arts and their development in the mass media.

403. Studies in Asian Literature (3) S Carr
Interrelationships of two or more authors, themes, genres, movements or aspects of literature and culture in Asia or between Asia and the West. Topics to be announced in the *Schedule of Classes*. May be repeated for credit, on different topics, for a maximum of nine units.

404. Women in World Literature (3) F, S Markman
Intensive study of the relationship of women and world literature. Specific movement, area or theme will be announced in the *Schedule of Classes*. May be repeated for credit to a maximum of six units with different topics. Open to all qualified men and women.

421. Classical Drama (3) F Hubble, Jernigan, Markman
Greek and Roman drama, in translation. (Same course as Theatre Arts 421. Formerly Comparative Literature 332.)

422. Renaissance Theatre and Drama (3) F Jernigan, Markman
Prerequisites: Two courses in literature or theatre arts or consent of instructor. Achievements, problems, trends of Renaissance theatre and drama in Spain, France, Italy and England. (Same course as Theatre Arts 422.)

428. Selected Periods in Theatre and Drama (3) S Bush, Carr, Hubble, Jernigan, Markman
Prerequisites: Two courses in literature or theatre arts or consent of instructor. Study of special movements and periods in the history of drama and theatre, to be selected each semester. (Same course as Theatre Arts 428.)

430. Dante (3) F, 1978 and alternate years Jernigan
In-depth study of the major work of Dante—the *Vita Nuova*, the lyric poetry and the *Divine Comedy* in translation. Examination is also given to the influence of Dante on later writers.

431. Medieval Literature (3) S Jernigan
Representative selections, in translation, from writings of the medieval period, reflecting dominant ideas of the time.

432. Continental Renaissance Literature (3) F Jernigan
Major themes, authors and works of Renaissance Europe.

438. Twentieth Century European Literature (3) S Hubble
European literature, in translation, from about 1900 to the present.

446. Continental Short Story (3) F Bush, Carr, Hubble, Jernigan, Markman
Comparative study of the short story from the Renaissance to the present in Italy, Spain, Germany, Russia and the Soviet Union. Emphasis is on analysis of stories, development of genre and comparison of national characteristics.

449. Critical Studies in Major Continental Writers (3) S Bush, Carr, Hubble, Jernigan, Markman
Recommended for seniors in comparative literature, English and foreign languages. Intensive study of one to three major Continental authors. Authors to be studied will be announced in the *Schedule of Classes*. May be repeated for credit to a maximum of nine units by consent of instructor.

450. Comparative Studies (3) F Bush, Carr, Hubble, Jernigan, Markman
Interrelation of two or more disciplines, emphasizing reciprocal influences and borrowing of materials during various literary periods. The class will feature a different interdisciplinary study each semester, to be announced in the *Schedule of Classes*. May be repeated for a maximum of 12 units with consent of instructor.

451. The Novel and the Motion Picture in Contemporary Society (3) F Hubble
Interdisciplinary study of two genres, with particular focus on novels made into films and on the aesthetic distinction of both forms as major genres in the 20th century.

452. Studies in Mythology (3) F, S Bush, Carr, Hubble, Markman
Interrelation of two or more mythologies, mythological themes or theories of mythology. This class will feature a different area of interdisciplinary or comparative nature in the study of mythology each semester, to be announced in the *Schedule of Classes*. May be repeated with different topics to a maximum of nine units. Consent of the department is necessary beyond six units.

499. Directed Studies (1-4) F, S Bush, Carr, Hubble, Jernigan, Markman
Prerequisite: Consent of instructor. Independent study of special topics under supervision of a faculty member. May be repeated for a maximum of six units with consent of department.

Graduate Division

501. Advanced Interdisciplinary Study (3)

502. Modern Folklore Research (3)

550. Topics in Comparative Literature (3)

English

Department Chair: Dr. Eileen E. Lothamer.

Assistant Chair: Dr. Richard D. Spiese.

Emeriti: Ralph K. Allen, Clarence P. Baker, George R. Cerveny, Elizabeth E. Nielsen, Aillee Wilford Rose, Stanley C. Rose, George D. Stephens, Harry S. Wilder.

Professors: C. Allen, Aspiz, Avni, Axelrad, Betar, Bonazza, Brooks, Brophy, Crane, Crawford, Darbee, Day, Gilde, Hermann, Hipkiss, James, Knafel, Lawson, R. Lee, Lim, Locklin, Lothamer, Lubbe, Lyon, Masback, May, Mittleman, Orgill, Peterson, Purcell, Rodabaugh, Sawyer, Schwab, Skarsten, Stetler, J. Williams, L. Williams, S. Wilson, Wylder.

Associate Professors: Ames, Bell, A. Black, Borowiec, Brekke, Dinielli, Fine, Fried, Hertz, Nelson, Peck, Plourde, Polk, Pomeroy, Rosenfelt, Ross, Samuelson, Spiese, Sullivan, Weinstock, O. Williams.

Assistant Professors: Garrott, McCullough.

Academic Advising Coordinators: Consult department office for referral to academic advisers.

The English curriculum is designed to serve all students in the University by offering them training in written expression and experience in literature and literary criticism.

The courses of study for the English major are designed to enlarge the literary background of students and to prepare them for graduate study, teaching, other professions or business careers.

Work in a foreign language is required for one of the options and recommended for the others, preferably to begin (if not continued from high school) in the lower division and to continue in the upper division. Because at least one language is usually required to obtain an advanced degree, students aiming at such degrees should include language study in their undergraduate programs.

Major in English for the Bachelor of Arts Degree

In planning a program of courses for the major in English, the student is advised to keep in mind the opportunities and limitations of the different options explained below. More detailed information about each option is available in the English Department office, but each student is also expected to consult a department faculty member regularly for advisement.

The major in English, for all options, consists of 41 units. This total may not include English 100 (which, however, satisfies general education requirements), but, upon petition to the English Department, may include courses taken in other departments. Because some courses are required in several options, a student desiring to change options can do so without any great loss of unit credit toward the 41-unit total.

A student may accelerate completion of the major in English by taking advantage of the department's credit by examination policy. Certain courses may be waived or substituted for under certain circumstances. Consult an English Department adviser for the option concerned.

Literature Option (code 2-6830)

The literature option is designed for students who desire a thorough grounding in English and American literature, particularly those planning on graduate study in English. Students aiming at advanced degrees should take as many of the recommended electives as possible. Because a reading knowledge of at least one foreign language is usually required to obtain an advanced degree, such students should also include language study in their undergraduate programs.

This option consists of 41 units, 29 of which must be upper division, including the following:

Lower Division: English 184, 250A,B.

Upper Division: Three courses in English literature: 363 and either two courses from the 450 series or one course from the 450 series and one course from 462, 463, 465, 467A,B, 468A,B; three courses in American literature: 370A,B and one course from 474, 475, 476, 477A,B, 478; one author seminar: 469 or 479; electives to make up a total of 41 units. Recommended: 331 (classical background), 484 (literary criticism); courses in English linguistics; additional courses in the 450, 460, 470 series; 405; 406; 407; 499; Comparative Literature 330A,B. English 481 or 482 may be elected, but not both, in satisfying this requirement.

Language and Composition Option (code 2-6829)

The language and composition option is designed to emphasize linguistic studies in preparation for either graduate study in language or for teaching. Four college semesters, or the equivalent, of a language other than English are also required.

This option consists of 41 units, 29 of which must be upper division, including the following:

Lower Division: English 184, 250A,B.

Upper Division: Two courses in literature: 370A,B; five courses in language: 325, 420, 421, 428 and one course from 423, 426; one course in composition chosen from 300, 310, 400; electives to make up a total of 41 units. Recommended: additional courses in literature and language, 405, 406, 407, 499. English 481 or 482 may be elected, but not both, in satisfying this requirement.

Creative Writing Option (code 2-6831)

The creative writing option is designed for students who wish to write, as well as to study, fiction, poetry or plays.

This option consists of 41 units, 26 of which must be upper division, including the following:

Lower Division: English 184, 205 or 206, 250A,B.

Upper Division: I. Three classes in creative writing chosen from English 405, 406, 407, 415; Theatre Arts 380, 480; Radio-TV 304. The English classes in this group may be repeated. II. Three classes in recent literature, literary genres and/or literary criticism chosen from the following courses: English 385, 386, 459, 467A,B, 474, 475, 476, 477A,B. III. Electives to make up a total of 41 units chosen from the classes listed above and/or any upper division English courses.

Special Option (code 2-6828)

The opportunity to pursue individually designed 41-unit programs of study is provided for students who wish a major in English but who have special interests or career objectives so different from those for which the other options are designed that their personal educational needs would be better served by some other pattern of courses. Students desiring to take the special option should present a detailed program proposal as early in their college career as possible. Such programs will be recognized only if planned in consultation with an English Department faculty adviser, approved in writing by the adviser and approved by a vote of the Curriculum Committee, given signed approval by the department chair and carried out under the adviser's continuing supervision. Students must complete at least 15 upper division units applicable to their special option program after it has been officially approved. The only specific course requirements and limitations are as follows:

English 184, Composition and Literature (four units).

Electives in English and related fields to make up a total of 41 units. These electives may not include English 100 or 101.

Major in English (Teaching Emphasis) for the Bachelor of Arts Degree (code 2-6803)

Secure Ryan Act information in English Department Credentials Office, HOB-317 or 318, or English Department Office, HOB-420.

Requirements for all English Secondary Credential Options:

English 184; 12 units from the following: 250A, 250B, 370A, 370B; 310; four units from the following: 320, 325; three units from the following: English 482 or Comparative Literature 232; Speech Communication 355 (this course does not count for the 41 unit English requirement for the B.A.).

Requirements for Literature Teaching Option: 19 units

English 363; three units from the 450's series; three units from the 470's series; four units from 469 or 479; electives to complete.

Requirements for Language and Composition Teaching Option: 19 units in English

English 420, 421; three units from the following: 423, 426, 428; six units from the following: 300, 423, 426; electives to complete. In addition this option requires 12 units or equivalent of a foreign language.

Requirements for Creative Writing Teaching Option: 19 units

Nine-12 units from the following: 405, 406, 407, 415; nine-12 units from the following: 385, 386, 459, 467A, 467B, 474, 475, 476, 477A, 477B, 484. The total number of units required in English is 41, at least 29 of which must be upper division.

Minor in English (Literature) (code 0-6830)

The minor in English (Literature) requires a minimum of 21 units and must include: English 184; eight units from English 250A,B, 370A,B; and nine units of electives to complete at least 21 units from English 363, 385, 386, 390, 398 and/or any courses from the 450, 460 or 470 series.

Minor in English (Language and Composition) (code 0-6829)

The minor in English (Language and Composition) requires a minimum of 20 units and must include: English 310, 325, 420, 421, 428 and 497. Also recommended are three units from English 423 or 426.

Minor in English (Creative Writing) (code 0-6831)

The minor in English (Creative Writing) requires a minimum of 21 units and includes the following: English 184; three units from English 205 or 206, three units from English 405 or 406; three units from English 385 or 386; and eight units of electives to complete at least 21 units from English 405, 406, 407, 459, 467A,B, 474, 475, 476, 477A,B, 484, 499. (Note: English 405 and 406 may be repeated for credit to a maximum of six units by consent of instructor.)

Minor in English (Teaching Emphasis) (code 0-6803)

The minor in English (Teaching Emphasis) requires a minimum of 21 units and includes the following: eight units from English 250A,B, 370A,B; English 310; four units from English 320 or 325; English 482; three units of electives (English 317 is not accepted).

Minor in English (Special Option) (code 0-6828)

The minor in English (Special Option) shall consist of no less than 21 units in a program developed, approved and supervised in the same manner as the Special Option major. One course, English 184, is required of all students, with the rest of the program constructed in consultation with a faculty adviser.

Students may take courses which center on technical writing, for example, or other writing goals; in some cases, they may focus on American or English literature, literature in a particular genre, a particular historical period, or a particular theme.

Master of Arts Degree in English

Master of Arts Degree in Linguistics

Programs of study leading to the master of arts degree in English and the interdisciplinary master of arts degree in linguistics are offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Certificate in Honors English

Description: The Honors English program offers qualified students an additional opportunity to pursue excellence through seminar courses; it encourages students to develop skills in independent study cutting across traditional course boundaries.

Eligibility: Following requirements or their equivalent: Satisfactory composition of a one-hour essay; grade point average of 3.00; completion of 30 units of college work, including English 101 or 184 and English 250A and B; personal interview by a member of the Departmental Honors Committee.

Certificate Requirements: Completion of a recognized degree program in English (presently 41 units), including a course in Shakespeare, a senior seminar and three or more Honors English courses (minimum of nine upper division units) with at least a B average; reading knowledge of a foreign language, or completion of two semesters of a foreign language at the college level with a grade of C or better; passing grade in a two-hour comprehensive examination.

Interested students should contact the English Department.

Certificate Program in Teaching English as a Second Language

The Certificate Program in Teaching English as a Second Language (TESL) is open to students from any field who desire training for teaching English to speakers of other languages. The program is open to undergraduate or graduate students.

Admission to the program is through application to the English Department.

Requirements for the Certificate in Teaching English as a Second Language

1. A bachelor's degree with an approved major. (The certificate may be completed prior to the completion of the B.A. requirements or while in the process of completing graduate work.)
2. Twenty units selected from the areas listed below, chosen in consultation with an adviser, and determined by class level and student objectives:
   - One course in general English linguistics: English 325 (not required of student with previous linguistic training in the United States).
   - One course in English phonology: English 420 or 525.
   - One course in English morphology and syntax: English 421 or 620.
   - Two courses in applied English linguistics: English 428, 429, 498 or 528.
   - Electives to complete the 20 units: English 310, 423, 426, 497, 498 (linguistic topics only), 499 (linguistic topics only), 528, 620, 697 (linguistic topics only), or other courses from those listed above.
3. Internship. Ninety hours of teaching or tutoring English as a second language, including at least 45 hours on the CSULB campus. Application for the internship is a separate process from application for admission to the certificate program, though the two may be done at the same time. Guidelines governing the remuneration or academic credit which may be received through the internship are available from the English Department.

Lower Division

Please check the section on "Application Procedures and Admissions Requirements" of this Bulletin for CSUC system-wide writing proficiency requirements.

001. Writing Skills (3) F, S Faculty
Required of all entering students with fewer than 60 units whose writing skills are deficient as revealed by examination. Does not count toward graduation but does count toward course load. A basic course in writing, concentration on organization, paragraph development, effective sentences, appropriate word choices and conventional mechanics, including spelling. Credit/no credit only.

100. Composition (3) F, S Faculty
Prerequisite: A recorded satisfactory score on a CSULB English Department approved screening test or English 001 or its equivalent. Writing non-fiction prose, with emphasis on exposition. Readings may be assigned. Satisfies the baccalaureate degree requirement for one course in English composition.

101. Composition (3) F, S Faculty
Prerequisite: English 100. Writing expository prose, with emphasis on the research paper. For non-English majors.

180. Appreciation of Literature (3) F, S Faculty
Study of works representing the scope and variety of themes and types of imaginative literature. (Not applicable toward an English major. Not open to students with credit in English 184.)

181. Developmental Reading (2) F, S Crane
Rigorous practice, using all levels of mature reading materials, in the techniques of more efficient comprehension at faster rates. Study of expository devices and structures. Extensive vocabulary training. Three hours per week.

184. Composition and Literature (4) F, S Faculty
Prerequisite: English 100. Introduction to the major literary genres and to methods of critical expository writing, including methods of research and documentation. Required of all English majors. Open to non-majors with consent of instructor.

198. Topics in English (1-4) F, S Axelrad, May, Wylder
Prerequisite: English 100. Topics in language and literature, considered in a small class format. Specific topics will be announced in the *Schedule of Classes*. Designed for general education. May be repeated with different topics for a maximum of eight units.

205. Introduction to Creative Writing: Fiction (3) S Fried, Hermann, Polk
Prerequisite: English 100. Practice in the basic elements of fiction writing: character sketch, plot development, description, dialog.

206. Introduction to Creative Writing: Poetry (3) F Fried, Lee, Polk
Prerequisite: English 100. Theory and techniques of poetry. Practice in creative work, with group discussions and individual conferences.

250A,B. Survey of English Literature (4,4) F, S Faculty
Prerequisite: English 100. Representative selections from English writers to and since the mid-eighteenth century.

Upper Division

English 100 is a prerequisite for all upper division courses.

300. Advanced Composition (3) F, S Faculty
Prerequisite: English 100. Writing expository prose, with emphasis upon organization, style and diction. (Not acceptable for graduate credit toward the master's degree.) English 300 is required of all single subject credential candidates who do not choose to take or fail to make a satisfactory score on the Advanced Writing Test.

303. Communication for Accounting and Finance (3) F, S Faculty
Prerequisites: English 100 or equivalent; Speech Communication 130 or 132 or 246 or equivalent; upper division standing; open only to accounting and finance majors. Oral and written communication principles and practice in the accounting and finance professions.

310. Applied Composition (3) F, S Sullivan, Wylder
Prerequisite: English 101 or 184 or 317 or a baccalaureate degree. Intensive practice in writing, correcting and evaluating compositions, with specific reference to contemporary classroom situations and problems. Required for all credential candidates in English.

317. Technical Writing (3) F, S Faculty
Prerequisite: English 100. Expository writing on technical subjects dealt with in industry, science, and government. Long and short forms including reports, proposals, manuals, and journal articles, with emphasis on the longer research paper or technical report.

320. English Grammar (4) F, S Faculty
Advanced study of the principles of English grammar.

325. Models of English Grammar (4) F, S McCullough, Ross
Introduction to structural and transformational models of American English, with reference to traditional grammar.

363. Shakespeare I (4) F, S Faculty
Principal plays of Shakespeare. Not open to students with credit in English 464 or 464A.

370A,B. Survey of American Literature (4,4) F, S Faculty
Representative selections from American writers to and since about 1865.

385. The Short Story (3) F Fried, Hermann, Lothamer, May, Polk, L. Williams
The short story as a literary genre, with emphasis on analysis of individual stories.

386. Poetry (3) S Ames, Lee, Lim, Mittleman, Polk
Poetry as a literary genre, with emphasis on analysis of individual poems.

390. Studies in Contemporary Literature (3) F, S Faculty
Reading and analysis of literary works, British and American, written since 1945. Topics, themes, limitations for each section will be announced in the *Schedule of Classes*. May be repeated once with a different topic.

398. Modern Drama (3) S Betar, Lyon
Continental, English, and American drama from Ibsen to the present.

405. Creative Writing: Short Story (3) F, S Fried, Hermann, Polk
Prerequisite: English 205 or consent of instructor. Writing short stories, with a detailed study of published models and with emphasis on the creative process. (May be repeated for credit to a maximum of 6 units by consent of instructor.)

406. Creative Writing: Poetry (3) F, S Lee, Polk
Prerequisite: English 206 or consent of instructor. Writing poetry, with a detailed study of published models and with emphasis on the creative process. (May be repeated for credit to a maximum of 6 units by consent of instructor.)

407. Creative Writing: Novel (3) S Hermann
Prerequisite: Consent of instructor. Writing long fiction, with a detailed study of published models and with emphasis on the creative process. (May be repeated for credit to a maximum of 6 units by consent of instructor.)

415. Advanced Fiction Writing (1-3) F, S Fried, Hermann, Polk
Prerequisite: English 405 or 407. Advanced students in creative writing meet for criticism and evaluation of each other's work. May be repeated for credit to a maximum of six units by consent of instructor.

420. Structure of Modern English: Phonology (3) F, S Hertz, McCullough, Ross, Sawyer
Prerequisite: English 325 or consent of instructor. Study of the phonology of American English, using articulatory phonetic, phonemic and distinctive feature analyses. Not open to students with credit in English 321A.

421. Structure of Modern English: Morphology and Syntax (3) F, S Hertz, McCullough, Ross, Sawyer
Prerequisite: English 325 or consent of instructor. Study of the morphology and syntax of American English, using structural and early and recent transformational models. Not open to students with credit in English 321B.

423. Semantics (3) F J. Williams
Study of meaning in language.

426. History of the English Language (3) F, S Knafel, Ross
Development of the English language from its beginnings to the present day. Not open to students with credit in English 323.

428. Applied Linguistics (3) F Sawyer
Prerequisites: English 420 and 421. Linguistic research applied to the study and teaching of the English language.

429. Language Strategies for Bilingual/TESL Classrooms (3) F, S McCullough
Prerequisite: English 325 (may be taken concurrently) or consent of instructor. Linguistic strategies for teaching the native speaker and the second language learner. To gain practical experience, students will work a minimum of 12 hours a semester in off-campus or on-campus bilingual and ESL classrooms.

431. Classical Background of English Literature (3) F Lubbe
Greek and Roman literature, in translation, in relation to English literature; the interrelations of classical literature with philosophy and art. Not open to students with credit in English 331.

451. Mediaeval Literature of the British Isles (3) F Axelrad, Bell, Knafel, Lubbe
Representative selections of Old and Middle English prose and poetry read for the most part in modern English versions; includes *Beowulf*, the romance, mediaeval drama, literature of contemporary conditions, Chaucer and the ballad.

452. Literature of the Renaissance (1500-1603) (3) F Brooks, Crane, Gilde, Orgill
Prose and poetry of Marlowe, Sidney, Ralegh, Spenser and other predecessors and contemporaries of Shakespeare, noting the influence of Humanism and the emergence of literary identity.

453. Literature of the Late Renaissance (1603-1660) (3) S Ames, Axelrad, Gilde, James, Purcell
Poetry and prose (chiefly non-dramatic) of Milton, Bacon, Jonson, Donne and the "Metaphysicals," and their contemporaries.

455. English Literature of the Enlightenment (1660-1798) (3) F, S Black, Crawford, Purcell, Skarsten
Prose and poetry (chiefly non-dramatic) of Swift, Dryden, Pope, Johnson, Boswell and their contemporaries, with emphasis on major satires such as *Gulliver's Travels* and *The Rape of the Lock*. Not open to students with credit in English 454.

456. English Literature of the Romantic Period (1798-1832) (3) S Avni, Crawford, Lim, Rodabaugh, Skarsten
Poetry and prose (chiefly non-dramatic) of Blake, Wordsworth, Coleridge, Byron, Shelley, Keats and their contemporaries, emphasizing the modern Romantic spirit, theories of literary art and the concept of the self.

458. English Poetry and Prose of the Victorian Age (1832-1900) (3) F, S Darbee, Lothamer, May, Peterson, Plourde, Weinstock
Poetry and prose of Tennyson, Browning, Arnold, Carlyle, Mill and others, emphasizing literary, social and political issues and religious controversies. Not open to students with credit in English 457.

459. English Literature of the Twentieth Century (1900-Present) (3) F Locklin, Mittleman, Peck, Samuelson, Wilson
Prose and poetry of Shaw, Conrad, Yeats, Lawrence, Joyce, Woolf and others, emphasizing artistic experimentation and the development of modern value systems.

462. Chaucer (3) S Lubbe
Works of Geoffrey Chaucer in Middle English.

463. Shakespeare II (3) F, S Bonazza
Prerequisite: English 363. Advanced study of some of the plays of Shakespeare. Not open to students with credit in English 464B.

465. Milton (3) F Purcell
Works of John Milton.

467A,B. The English Novel (3,3) F, S Lothamer, Lyon
History and development of long prose fiction in the British Isles to and since 1832.

468A,B. English Drama (3,3) F, S Brooks, Crane, Orgill
History and development of English drama, to and since 1642, excluding Shakespeare.

469. Critical Studies in Major English Writers (4) F, S Faculty
Prerequisites: At least senior standing, 12 units of upper division English. Intensive study of one to three major English authors. The authors to be studied will be announced in the *Schedule of Classes*. May be repeated for credit with different authors to a maximum of eight units, but no more than four units may be used to satisfy the requirements for the English major. Open to graduate students but shall not count in the 30 units for the M.A. in English.

474. Twentieth Century American Literature (3) S Faculty
American literature from about 1914 to the present.

475. The American Short Story (3) F Faculty
History and development of the short story and its criticism in the United States.

476. American Poetry (3) F Faculty
History and development of poetry and its criticism in the United States.

477A,B. The American Novel (3,3) F, S Faculty
History and development of the novel and its criticism in the United States to and since the 1920's. Not open to students with credit in English 477.

478. American Drama (3) S Faculty
History and development of drama and its criticism in the United States.

479. Critical Studies in Major American Writers (4) F, S Faculty
Prerequisites: At least senior standing, 12 units of upper division English including English 370A,B. Intensive study of one to three major American authors. The authors to be studied will be announced in the *Schedule of Classes*. May be repeated for credit with different authors to a maximum of eight units, but no more than four units may be used to satisfy the requirements for the English major. Open to graduate students but shall not count in the 30 units for the M.A. in English.

481. Children's Literature (3) F, S Lawson, Masback
Prerequisite: One college course in literature. Survey of literature suitable for children.

482. Literature for Adolescents (3) F, S Faculty
Prerequisite: One college course in literature. Survey of literature suitable for adolescents.

484. History of Literary Criticism (3) F Avni, Lee
Works of representative critics, ancient and modern. Practice in the writing of critical papers. Not open to students with credit in English 489 or 589.

497. Directed Studies in Composition (4) F, S Faculty
Prerequisite: Graduate standing or one of the following courses: English 300, 310, 405, 406, 407. Theory and practice of teaching English composition. Recommended for single-subject credential candidates and those preparing for college level teaching. CR/NC only. (Three hours a week in freshmen composition class as laboratory; one hour per week in seminar.)

498. Topics in English (1-4) F, S Faculty
Exploration of topics in language and literature, specific topics to be announced in the *Schedule of Classes*. May be repeated with different topics, but no more than six units may be applied to the 41 units required for the English major.

499. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Independent study undertaken under the supervision of a faculty member. May be repeated for credit to a maximum of 4 units. Not applicable toward the Master of Arts in English.

Also, see Comparative Literature Department for course offerings.

Graduate Division

521. Historical Linguistics (4)

525. Analytical Phonology (4)

528. Current Issues in English as a Second Language (3)

530. Theory of Rhetoric (3)

535. Teaching Composition (3)

537. Current Issues in English Instruction (3)

550. Old English Language and Literature (4)

551. Middle English Language and Literature (4)

583. Special Topics in Literature (3-4)

584. Contemporary Literary Theory (3)

620. Seminar in Special Topics in Linguistics (4)

623. Seminar in Dialect Study (4)

652. Seminar in the English Renaissance (4)

653. Seminar in the Age of Milton (4)

655. Seminar in Restoration and Eighteenth Century Literature (4)

656. Seminar in Romantic Literature (4)

657. Seminar in Victorian Literature (4)

659. Seminar in Twentieth Century English Literature (4)

661. Seminar in Beowulf (4)

672. Seminar in Nineteenth Century American Renaissance (4)

673. Seminar in American Realism (4)

674. Seminar in Twentieth Century American Literature (4)

681. Seminar in Major Authors (4)

696. Seminar in Literary Criticism and Research (4)

697. Directed Research (1-3)

698. Thesis (1-6)

French-Italian

Department Chair: Dr. F. M. Swensen.
Professors: Swensen, Thomas.
Associate Professors: Kessler, Quillen, Winter, Yperman.
Credential Adviser: Mr. Herbert Winter.
Academic Advising Coordinator: Dr. F. M. Swensen.

French

The program in French is designed to meet the needs of (1) prospective teachers; (2) students preparing for executive secretarial positions where knowledge of modern languages is essential; (3) students who plan to enter the consular service, and majors in international relations; (4) those who desire to enlarge their background of experience in the field of communication and share in the aesthetic and cultural contributions of the peoples of the world; and (5) those preparing for professional and graduate work.

Major in French for the Bachelor of Arts Degree (code 2-6812)

Lower Division: One year of intermediate French, French 214. Students who have completed sufficient high school French may take upper division courses as soon as lower division requirements have been met.

Upper Division: A minimum of 30 units of upper division courses which must include French 312, 313, 314, 335, 336, 411, 440 and three of the following courses: 414, 470, 471, 472, 474, 477, 479, 490. Candidates for the teaching credential must take French 414.

Departmental Requirement: One year of a second foreign language is required of all majors.

Minor in French (code 0-6812)

A minimum of 20 units which must include: French 312, 313, 314.

Master of Arts Degree in French

A program of study leading to the master of arts degree in French is offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

101A-B. Fundamentals of French (4,4) F, S Faculty
Practice in grammar, reading, pronunciation, writing and conversation.
101A. For those who are beginning the study of French or who have had one year of high school French.
101B. Prerequisite: French 101A or two years of high school French. Continuation of French 101A.

103A-B. Beginning Reading for Non-Majors (3,3) F, S Faculty
103A. Course designed for students in any field who are preparing to satisfy reading examination requirements in French. Concentration on vocabulary and sentence structure to enable a student to read independently specialized literature in his major field.
103B. Prerequisite: French 103A or equivalent.

201A-B. Intermediate French (4,4) F, S Faculty
Continued work in grammar, pronunciation, writing and conversation with some reading of modern writers in the second semester.
201A. Prerequisite: French 101A-B or three years of high school French or equivalent.
201B. Prerequisite: French 201A or four years of high school French or equivalent.

214. Beginning Conversation (3) F, S Faculty
Prerequisite: French 101B. Should be taken concurrently with French 201A or 201B. Designed to develop basic conversational skills and to prepare for more advanced work in French 314.

Upper Division

312. Advanced French I (3) F, S Faculty
Prerequisite: French 201B or equivalent. Reading of French writings, review of grammatical principles, and a general consolidation of the four language skills: reading, comprehension, composition and conversation.

313. Advanced French II (3) F, S Faculty
Prerequisite: French 312 or equivalent. Sequel to French 312, with continuing emphasis on reading of French texts, regular composition work based on these readings, and the development of increased mastery of the written and spoken language.

314. Advanced Conversation (3) F, S Faculty
Prerequisite: French 214 or consent of instructor. Continuation of French 214.

335. Survey of French Literature I (3) F Faculty
Prerequisite: Upper division standing in French. From the Middle Ages through the Eighteenth Century.

336. Survey of French Literature II (3) S Faculty
Prerequisite: Upper division standing in French. Nineteenth and Twentieth Centuries.

411. Advanced French Syntax and Composition (3) F Faculty
Prerequisites: French 312 and 313 or equivalent. Special emphasis on the writing of short composition and commercial letters with advanced work in translation.

414. French Phonetics (3) S Thomas
Prerequisites: French 312 and 313 or consent of instructor. General concepts of linguistic science. Linguistics applied to the study and teaching of the French language. Articulatory phonetics as a means to form native French pronunciation habits with emphasis upon the difficulties encountered by speakers of American English.

440. French Civilization (3) S Quillen, Yperman
Prerequisite: French 313 (may be taken concurrently with French 335 or 336 or with consent of instructor). Significant aspects of French art, culture and social institutions.

455. Modern French Drama (3) SS Winter
Prerequisites: French 335, 336 or consent of instructor. Survey of contemporary French theatre.

470. French Literature of the Middle Ages (3) On demand Thomas
Prerequisites: French 335, 336 or consent of instructor. Study of representative drama, poetry and prose of the period. Texts in modern French.

471. French Literature of the Renaissance (3) On demand Kessler, Yperman
Prerequisites: French 335, 336 or consent of instructor. Study of representative drama, poetry and prose of the 16th Century.

472. French Literature of the Seventeenth Century (3) On demand Quillen
Prerequisites: French 335, 336 or consent of instructor. Study of representative drama, poetry and prose of the century.

474. The Age of Enlightenment (3) On demand Kessler
Prerequisites: French 335, 336 or consent of instructor. Study of representative writers and thinkers of the century. Drama, poetry and prose.

477. French Literature of the Nineteenth Century (3) On demand Swensen
Prerequisites: French 335, 336 or consent of instructor. Study of representative writers of the century. Drama, poetry and prose.

479. French Literature of the Twentieth Century (3) On demand Winter, Yperman
Prerequisites: French 335, 336 or consent of instructor. Study of representative writers of the century. Drama, poetry and prose.

490. Special Topics in French (3) On demand Faculty
Prerequisite: French 335, 336 or consent of instructor. Study of a particular topic in French literature, language or culture. Specific topics to be announced in the *Schedule of Classes*. May be repeated with different topics, but not more than six units may be applied to the requirements for the major in French.

499. Directed Studies (1-3) F, S Faculty
Prerequisites: Consent of instructor and department chair. Independent study undertaken under the supervision of a faculty member. May be repeated for three units provided the material is not the same. Additional credit beyond three units is available only under exceptional circumstances and with prior approval of the department, but under no circumstances may the total exceed six units.

Graduate Division

604. Seminar in a Century of French Literature (3)

685. Seminar in French Literary Masters (3)

688. Seminar in French Literature or Culture (3)

697. Directed Research (1-3)

698. Thesis (2-6)

Italian

Lower Division

101A,B. Fundamentals of Italian (4,4) F, S Faculty
Practice in grammar, reading, pronunciation, writing and conversation.
101A. For those who are beginning the study of Italian or who have had one year of high school Italian.
101B. Prerequisite: Italian 101A or two years of high school Italian. Continuation of Italian 101A.

201A,B. Intermediate Italian (4,4) F, S Faculty
Readings of representative writers with oral and written practice.
201A. Prerequisite: Italian 101A-B or three years of high school Italian or equivalent.
201B. Prerequisite: Italian 201A or four years of high school Italian or equivalent.

214. Beginning Conversation (3) F, S Faculty
Prerequisite: Italian 101B. Should be taken concurrently with Italian 201A or 201B. Designed to develop basic conversational skills and to prepare for more advanced work in Italian 314.

Upper Division

312. Advanced Italian I (3) F, S Faculty
Prerequisite: Italian 201B. Extensive reading of Italian writings, review of grammatical principles and a general consolidation of the four language skills: reading, comprehension, composition and conversation.

313. Advanced Italian II (3) F, S Faculty
Prerequisite: Italian 312 or equivalent. A sequel of Italian 312 with continuing emphasis on extensive reading of Italian texts, regular composition work based on these readings and the development of increased mastery of the spoken language through student discussion of the readings.

314. Advanced Conversation (3) F, S Faculty
Prerequisite: Italian 214 or consent of instructor. Continuation of Italian 214. More advanced use of spoken Italian to establish a strong basis for correct and fluent proficiency in the oral idiom.

490. Special Topics in Italian (3) F, S Faculty
Prerequisite: Upper division standing in Italian or consent of instructor. Study of a particular topic or aspect of Italian literature, language or culture. Specific topics to be announced in the *Schedule of Classes*. May be repeated with different topics to a maximum of 12 units.

499. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor and department chair. Independent study undertaken under the supervision of a faculty member. May be repeated to a maximum of six units.

German, Russian and Classics

Department Chair: Dr. Johanna W. Roden.
Emeritus: Graham K. Spring.
Professors: McKay, Pelters, Roden.
Associate Professors: Bartenbach, Ctvrtlik, Kendall, Malone.
Credential Adviser: Dr. Harvey Kendall.
Academic Advising Coordinator: Dr. Johanna W. Roden.

German

The program in German is designed to meet the needs of several types of students, including those who seek a liberal arts education with an emphasis on the German language and its literature; those who intend to teach at the elementary, secondary or the college level; those who plan to use German in professional careers or in pursuit of graduate studies. The program promotes competency in the use of the language and understanding of German literature and culture.

Major in German for the Bachelor of Arts Degree (code 2-6813)

Lower Division: One year of intermediate German. Students who have completed sufficient high school German may take upper division courses as soon as lower division requirements have been met. Majors who are native speakers of German may not enroll for credit in language courses: 101A-B, 201A-B, 205A-B, 301A-B, 305A-B, 401A-B; however, exceptions may be granted for upper division language courses with the department's consent.

Upper Division: A minimum of 30 units of upper division courses in German which must include German 301A-B, 305, 401A-B.

Departmental Requirement: One year of a second foreign language is required of all majors.

Recommendations: Courses should be selected in consultation with the major adviser who will be assigned by the department office. The department recommends studies in a German-speaking country and will assist in such plans.

Minor in German (code 0-6813)

A minimum of 20 units which must include: German 301A, 301B, 305.

Master of Arts Degree in German

A program of study leading to the master of arts degree in German is offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

101A-B. Fundamentals of German (4,4) F, S Faculty
101A. For those who are beginning the study of German.
101B. Prerequisite: German 101A or one year of high school German. Continuation of German 101A.

201A-B. Intermediate German (4,4) F, S Faculty
Reading of representative modern German literature. Deeper penetration into German grammar.
201A. Prerequisites: German 101A-B or two years of high school German.
201B. Prerequisite: German 201A.

204. German for Reading Knowledge (3) F, S Faculty
Prerequisite: One year of German or equivalent. Designed to develop reading skill in German.

205A-B. German Conversation (1,1) F, S Faculty
Intensive practice of spoken German with stress on vocabulary building, pronunciation, intonation and oral comprehension. CR/NC only. (Activity 2 hours.)
205A. Prerequisite: One year of college German.
205B. Prerequisite: German 205A or consent of instructor.

Upper Division

301A-B. Advanced German (4,4) F, S Faculty
Intensive practice and the consolidation of the basic language skills: reading, comprehension, composition and conversation.
301A. Prerequisite: German 201B or equivalent. Emphasis on reading, comprehension, vocabulary building and idiomatic usage.
301B. Prerequisite: German 301A or equivalent. Emphasis on composition, oral reports and discussion.

303. Applied German Linguistics (3) F, S Faculty
Prerequisite: Upper division standing in German or consent of instructor. Contrastive phonetics, morphology and syntax of German and English. Attention will be focused also on the historical development of the German language, especially with respect to the present day phonological differences between the two languages.

305. German Conversation (1) S Faculty
Prerequisite: Upper division standing in German. Intensive practice of spoken German with stress on vocabulary building, pronunciation, intonation and oral comprehension. CR/NC only. May be repeated once for credit. Not open to students with credit in both 305A and 305B. May be taken only once by students with credit in either 201A or 201B.

306. Translating and Interpreting (3) F, S Faculty
Simultaneous and successive translating and interpreting of speech, news items, expository prose and literary texts. May be repeated once for credit.

315. Survey of German Literature and Culture I (3) F Faculty
Prerequisite: Upper division standing in German. German literature from its early developments to the middle of the 17th century as related to the other arts and philosophy as well as the social and political institutions of the time.

316. Survey of German Literature and Culture II (3) S Faculty
Prerequisite: Upper division standing in German. German literature from the enlightenment to 1832 as related to the other arts and philosophy as well as the social and political institutions of the time.

317. Survey of German Literature and Culture III (3) F Faculty
Prerequisite: Upper division standing in German. German literature from 1832 to the present time as related to the other arts and philosophy as well as the social and political institutions of the time.

401A-B. Advanced German Syntax and Composition (3,3) F, S Faculty
Prerequisites: German 301A-B. Practice in developing a style and vocabulary suitable for the writing of reports and essays on cultural and literary topics.

410. German Civilization (3) On demand Bartenbach, Roden
Prerequisite: Upper division standing in German. Historical development of important German institutions, customs and thought.

430. German Poetry I (3) On demand Pelters
Prerequisite: Upper division standing in German. German poetry from the baroque through realism. Not open to students with credit in German 451.

432. German Poetry II (3) On demand Malone, Pelters
Prerequisite: Upper division standing in German. German poetry from Hofmannsthal to the present.

441. German Novelle (3) On demand Roden
Prerequisite: Upper division standing in German. The German novelle as a separate literary genre, represented by Goethe, Tieck, Kleist, Keller, Meyer, Storm, Spielhagen, Heyse, Kafka, Thomas Mann and others.

453. German Literature of the Enlightenment and "Sturm und Drang" (3) On demand Pelters
Prerequisite: Upper division standing in German. Literary trends of the 18th century with emphasis on Lessing, Wieland, Klopstock, Herder and the authors of the "Sturm und Drang."

454. Literature of the Classical Period (3) S Pelters, Roden
Prerequisite: Upper division standing in German. Theory and major works by Goethe and Schiller. Not open to students with credit in German 471.

457. German Romanticism (3) F Bartenbach, Pelters
Prerequisite: Upper division standing in German. Philosophical thought and representative works in prose, lyric poetry and drama of German romanticism.

458. Nineteenth Century Literature (3) S Kendall
Prerequisite: Upper division standing in German. Representative literary works of the "Biedermeier," "Junges Deutschland" and "Poetischer Realismus" against the background of the historical, philosophical and cultural movements of the times.

459A. German Literature from 1890-1945 (3) F Kendall, Malone, Roden
Prerequisite: Upper division standing in German. Major German prose, drama and poetry from naturalism to the end of World War II.

459B. German Literature from 1945 to Present (3) S Kendall, Malone, Roden
Prerequisite: Upper division standing in German. Significant contemporary German writers of prose, drama and poetry.

460. Literature of the DDR (3) S, 1980 and alternate years Pelters
Prerequisite: Upper division standing in German. Development of literature in East Germany and its sociological and political involvement.

470. German Literature in Translation (3) On demand Faculty
Study of significant German writers, German literary movements or a specific literary genre in English translation. Not open to students with credit in German 370.

498. Topics in German (3) F, S Faculty
Prerequisite: Senior standing in German or consent of instructor. Exploration of topics in language, culture and literature. Specific topics to be announced in the *Schedule of Classes*. May be repeated with different topics to a maximum of six units.

499. Directed Studies (1-6) F, S Faculty
Prerequisite: Consent of instructor and consent of graduate adviser if taken for graduate credit. Independent study undertaken under the supervision of a faculty member.

Graduate Division

508. Topics in German Language Studies (3)

511. Selected Topics in German Culture and Civilization (3)

590. Study of German Literature (3)

652. Seminar in Medieval German Literature (3)

692. Practicum (3)

697. Directed Research (1-3)

698. Thesis (2-4)

Russian

The German, Russian and Classics Department is one of four departments in The California State University and Colleges in Southern California which offers courses leading to a major in Russian for the bachelor of arts degree. The four campuses in the joint consortium program are California State University, Los Angeles, California State University, Northridge, California State College, San Bernardino and California State University, Long Beach. California State University, Fullerton is preparing to join the program.

A minimum of 15 units of upper division courses in the major must be completed at California State University, Long Beach; nine units or more must be taken at one or several campuses participating in the consortium.

Major in Russian for the Bachelor of Arts Degree (code 2-6818)

Lower Division: A minimum of 16 semester units (or the equivalent), of which at least 13 must be Russian language courses. If the requirement is met at this University, the student will take Russian 101A-B and 201A-B.

Upper Division: A minimum of 30 units including: 18 semester units or its equivalent in Russian language courses of which at least nine semester units must be in Area A (Languages and Linguistics, including a three-unit linguistics course) and at least nine semester units must be in Area B (Literature and Civilization—of which at least six units must be literature). The remaining units are approved electives of which nine units may be courses other than Russian language courses.

Area A courses taught at CSULB

312. Advanced Russian I (3)
313. Advanced Russian II (3)
314. Russian Conversation (3)

Area B courses taught at CSULB

315. Survey of Russian Literature I (3)
316. Survey of Russian Literature II (3)
410. Russian Civilization (3)

Additional courses satisfying Area A and Area B requirements are available on other campuses of the consortium. See an adviser for the latest information on these courses and the year (term or semester) on projected offering.

Lower Division

101A-B. Fundamentals of Russian (4,4) F, S Ctvrtlik
Practice in grammar, reading, pronunciation, writing and conversation.
101A. For those who are beginning the study of Russian.
101B. Prerequisite: Russian 101A or one year of high school Russian. Continuation of Russian 101A.

201A-B. Intermediate Russian (4,4) F, S Ctvrtlik
Readings of representative modern writers with oral and written practice.
201A. Prerequisites: Russian 101A-B or two years of high school Russian or equivalent.
201B. Prerequisite: Russian 201A or three years of high school Russian or equivalent.

Upper Division

303. Russian Linguistics (3) F Faculty
Prerequisite: Russian 201B or equivalent. An examination of Russian phonetics, morphology and syntax with an emphasis on practical application. Required for B.A. through consortium program.

312. Advanced Russian I (3) F Faculty
Required background or experience. Ability to read general material in Russian and to translate non-technical material into the language. Extensive reading of Russian writings, review of grammatical principles, and a general consolidation of the four language skills: reading, comprehension, composition and conversation.

313. Advanced Russian II (3) S Faculty
Required background or experience. Ability to read Russian stories, articles, and periodicals with facility; ability to draft non-technical reports of compositions in the language and a basic fluency in conversational Russian. Sequel to 312 with continuing emphasis on extensive reading of Russian texts and periodicals, regular composition work based on these readings and the development of increased mastery of the Russian language.

314. Russian Conversation (3) F Faculty
Prerequisites: 14 units of lower division Russian or consent of instructor. Functional course in conversation. Intended to meet specific, everyday situations and to provide help to those who intend to speak Russian in travel, work or classroom instruction.

315. Survey of Russian Literature I (3) F Faculty
Prerequisite: Upper division standing in Russian. Development of literary writings from Pushkin to Chekov. Taught in Russian.

316. Survey of Russian Literature II (3) S Faculty
Prerequisite: Upper division standing in Russian. Development of literary writings from Chekov to present day. Taught in Russian.

410. Russian Civilization (3) F Faculty
Prerequisite: Upper division standing in Russian. Development of important Russian institutions. Taught in Russian.

499. Directed Studies in Russian (1-3) On demand Ctvrtlik
Prerequisites: Senior standing, consent of instructor. Readings in areas of mutual interest to student and instructor which are not a part of any regular course. A written report or project may be required.

Classics

The classics program comprises a full range of lower and upper division courses in Greek, Latin and Sanskrit. It is possible to minor in both Greek and Latin. Those interested in completing a program in classics as their primary major or as a concurrent second major should see requirements for the special major listed in this *Bulletin* and confer with classics faculty for advice and counsel.

200. Greek and Latin Elements in English (3) F, S Faculty
Survey of the derivation and use of English words of Greek and Latin origin, including common as well as specialized vocabulary. Analysis of words and their component parts with emphasis on the historical development of Indo-European languages. No knowledge of Greek or Latin required. Same course as Latin 200.

201. Technical Terms of Science and Medicine (3) F, S Faculty
Study of Greek and Latin roots and word elements basic in the modern technical vocabularies of science and medicine. No knowledge of Greek or Latin required.

Greek

Minor in Greek (code 0-6811)

A minimum of 20 units which must include four 300-level courses.

Lower Division

221. Fundamentals of Greek (4) F Faculty
Introduction to Greek grammar with emphasis on the rapid reading of graded Attic prose. Exercises in the writing of Greek sentences will be regularly required. Main objective of the course is to provide the student with the groundwork for an approach to the great Greek masters of poetry and prose in the original language. Not open to students with credit in Greek 101A.

222. Intermediate Greek (4) S Faculty
Prerequisite: Greek 221 or equivalent. Reading of Plato's *Apology* and other dialogs. Introduction to the Homeric dialect. Regular assignments of English sentences for translation into Greek. Introduction to prose composition. Not open to students with credit in Greek 101B.

Upper Division

331. Greek Tragedy and Advanced Composition (3) F, 1979 and alternate years McKay
Prerequisite: Greek 222 or its equivalent. History of Greek tragedy and analysis of the extant plays of Aeschylus, Sophocles and Euripides. Translation and literary study of one or more specific plays. Advanced composition.

332. Greek Lyric Poets and Advanced Composition (3) S, 1980 and alternate years McKay
Prerequisite: Greek 331. Development and growth of the Greek lyric and Elegiac poetry from its earliest proponents. Translation and literary studies of selected poems. Advanced composition.

342. Homer and Advanced Composition (3) S, 1979 and alternate years McKay
Prerequisite: Greek 351. Translation and literary study of selected books of the *Iliad* or *Odyssey*. Advanced composition.

351. Plato and Advanced Composition (3) F, 1978 and alternate years McKay
Prerequisite: Greek 222. Translation and literary study of one or more dialogues of Plato. Advanced composition.

490. Special Topics (1-3) F, S Faculty
Prerequisites: 12 units of upper division Greek courses or consent of instructor. Translation and literary study of the selected works of an author, genre (e.g., oratory), or period (e.g., Hellenistic Greek). May be repeated for credit up to six units with different topics.

499. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Directed studies to permit individual students to pursue topics of special interest. May be repeated for credit up to a maximum of six units.

Latin

Minor in Latin (code 0-6815)

A minimum of 20 units which must include four 300-level courses (excluding Latin 377 and 378).

Lower Division

221. Fundamentals of Latin (4) F Faculty
Introduction to Latin grammar with emphasis on the rapid reading of graded Latin prose. Exercises in the writing of Latin sentences will be regularly required. Main objective of the course is to provide the students with the groundwork for an approach to the great Roman masters of poetry and prose in the original language. Not open to students with credit in Latin 101A-B or to students with more than two years of high school Latin.

222. Intermediate Latin (4) S Faculty
Prerequisite: Latin 221 or its equivalent. Reading of selected poems from Catullus and from Horace's *Odes*. Reading of a generous portion of Cicero's *Verrine Orations*. Regular assignments of English sentences for translation into Latin. Introduction to prose composition. Not open to students with credit in Latin 201A-B or to students with more than three years of high school Latin.

Upper Division

331. Virgil and Advanced Composition (3) F, 1979 and alternate years McKay
Prerequisite: Latin 222 or equivalent. Translation and literary study of Virgil's poetry. Advanced composition.

332. Roman Comedy and Advanced Composition (3) S, 1980 and alternate years McKay
Prerequisite: Latin 331. Translation and literary study of one or more plays of Plautus or Terence. Advanced composition.

351. Roman Lyric Poets and Advanced Composition (3) F, 1978 and alternate years McKay
Prerequisite: Latin 222. Translation and literary study of selected poems of Catullus and Horace's *Odes*. Advanced composition.

352. Cicero and Advanced Composition (3) S, 1979 and alternate years McKay
Prerequisite: Latin 351. Translation and literary study of a representative work of Cicero. Advanced composition.

490. Special Topics (1-3) F, S Faculty
Prerequisites: 12 units of upper division Latin courses or consent of instructor. Translation and literary study of the seleced works of an author, genre (e.g., satire), or period (e.g., Medieval Latin). May be repeated for credit up to six units with different topics.

499. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Directed studies to permit individual students to pursue topics of special interest. May be repeated for credit to a maximum of six units.

Sanskrit

Upper Division

331. Fundamentals of Sanskrit (3) F McKay
Reading and writing of Sanskrit using the devanagari alphabet. Introduction to Sanskrit grammar with emphasis on the rapid reading of classical Sanskrit. Translation and explanation of selections from the *Bhagavad Gita*.

332. Intermediate Sanskrit (3) S McKay
Prerequisite: Sanskrit 331. Translation and explanation of Sanskrit didactic fables and folk tales and the code of law as handed down by Manu. Classical Hindu society and culture. Indo-European comparative grammar.

341. Advanced Sanskrit and Pali (3) F McKay
Prerequisite: Sanskrit 332. Classical and pre-classical prose and verse including the *Upanishads*. Study of Pali, a simplified form of Sanskrit in which the works of the Buddhist canon are written.

342. Vedic Sanskrit and Pali (3) S McKay
Prerequisite: Sanskrit 341. Hymns from the *Rig Veda*. Further study of Pali literature.

Hebrew

Lower Division

101A-B. Introductory Hebrew (4,4) F, S Faculty
101A. Beginning course. Hebrew alphabet, essential facets of grammar, reading, writing, mastery of basic vocabulary.
101B. Prerequisite: Hebrew 101A or two years of high school Hebrew. Continuation of Hebrew 101A. Simple conversation, reading of selected verses from Genesis and essay texts in modern Hebrew.

201A-B. Intermediate Hebrew (4,4) F, S Faculty
Prerequisites: Hebrew 101A-B or consent of instructor. Reading of representative modern Hebrew literature and review of grammar.

Upper Division

499. Directed Studies (1-3) F, S Avni
Prerequisite: Consent of instructor. Independent study under the supervision of a faculty member.

Journalism

Department Chair: Mr. Benjamin H. Cunningham.
Emeritus: Robert A. Steffes.
Professors: Bliss, Cunningham, Gayer, Stein, Wells.
Associate Professors: Ferrell, Garvey, Kelly, Wetherington.
Assistant Professors: Peterson, Stone.
Lecturers: Cox, Northrup.
Credential Adviser: Mr. James Bliss.
Academic Advising Coordinator: Mr. Benjamin H. Cunningham

The Journalism Department offers five major programs leading to the bachelor of arts degree: option one for a career in newspaper journalism, option two for magazine journalism, option three for broadcast journalism, option four for public relations and option five for the teaching of journalism. The teaching option meets the requirements for the standard teaching credential with a secondary specialization. It prepares the student to teach journalism and advise student publications on the secondary school level.

The department produces a daily laboratory newspaper, magazine and contributes news to the campus radio station.

The Journalism Department also maintains a placement service to help graduates and alumni find jobs in journalism.

Major in Journalism for the Bachelor of Arts Degree

Newspaper Option (code 2-6461)

A minimum of 28 and a maximum of 32 journalism units, of which at least 14 must be upper division.

Lower Division: Journalism 110, 120, 222A or B, 230.

Upper Division: Journalism 320, 322A or B, 420, 430 and one or more of the following: 312, 315, 330, 412, 418, 419, 494 or 498.

Recommended additional courses: Journalism 115, 251, 352, 380, 428, 431, 460 and 490.

Magazine Option (code 2-6465)

A minimum of 28 and a maximum of 32 journalism units, of which at least 14 must be upper division.

Lower Division: Journalism 110, 120, 237, 251, 262A or B.

Upper Division: Journalism 355, 430 and three or more of the following: 315, 350, 362A or B, 412, 418, 494 or 498.

Recommended additional courses: Journalism 115, 280, 328, 376, 380, 431, 490 and 498.

Broadcast Journalism (code 2-6460)

A minimum of 28 and a maximum of 32 journalism units, of which at least 14 must be upper division.

Lower Division: Journalism 110 and 120 and one of the following: Radio-TV 207, 208 or 210.

Upper Division: Journalism 321, 325, 382A, 430 and one or more of the following: 312, 315, 412, 418, 494 or 498.

Recommended additional courses: Journalism 115, 320, 382B, 420, 431, 490 and Speech Communication 271.

Teaching Option (code 2-6836)

A minimum of 24 units and a maximum of 32 units in journalism, at least 12 of which must be in upper division, selected in consultation with an adviser. These must include Journalism 110, 120, 230, 322A or B, 410 and 460. Additional recommended courses include Journalism 115, 270, 280, 312, 320, 422A or B, 430, 431, 490 and 499.

To qualify for a credential that will authorize the teaching of journalism in California public schools, a student must complete journalism requirements specified above, in addition to a prescribed program of courses in English and/or comparative literature (about 26 units); education (24 units); health science (3 units) and speech communication (3 units).

Public Relations Option (code 2-6837)

A minimum of 28 units and a maximum of 32 units in journalism, at least 18 of which must be in upper division, selected in consultation with an adviser. These must include Journalism 110, 120, 270, 375, 376, 430 and either 470 or 471. At least one additional course must be chosen from Journalism 312, 315, 350, 412, 418, 494 and 498. Additional recommended courses include Journalism 115, 237, 251, 280, 320, 328, 355, 380, 431, 460, 490.

Note: Within the 32-unit maximum students may, with approval of their adviser, take journalism courses outside the recommended lists.

Minor in Journalism (code 0-6835)

A minimum of 18 units including:

Lower Division: Six to nine units, which must include Journalism 110 and 120. Additional three units may be selected from Journalism 115, 230, 270 and 280.

Upper Division: Nine to 12 units, which must include a minimum of six units from one option within the journalism major.

Lower Division

110. Introduction to Mass Communications (3) F, S Bliss, Cunningham, Garvey, Kelly, Stone

Origins, development and contemporary role of newspapers, magazines, radio, television, books, and films, and such related fields as advertising and public relations. (Lecture, discussion 3 hours.)

115. History of American News Media (3) F, S Ragland, Wells

American news media from colonial times to the present day. Effects of print and broadcast journalism on political, social and economic life. Progress toward free and responsible news media. (Lecture, discussion 3 hours.)

120. News Writing and Reporting (3) F, S Ferrell, Stein, Wells, Faculty

Prerequisite: Ability to type. Study of news sources, reporting and interviewing methods and news writing; ethics and responsibilities of the reporter. Practical exercises in reporting and writing news and preparing copy for publication.

222A,B. Newspaper Production (1,1) F, S Wells

Prerequisites: Journalism 120, 230, or consent of instructor. Participation in the publication of the University newspaper, *The Forty-Niner*. Includes reporting, writing, photography, art, copyreading, proofreading, advertising and business. (Laboratory 3 hours.) Maximum credit 2 units.

230. Copy Editing and Makeup (3) F, S Bliss, Wells

Prerequisite: Journalism 120 or consent of instructor. Study of methods and practice in preparing copy for publication, including editing, headline writing and handling wire copy. Editorial aspects of newspaper makeup and design.

237. Magazine Making and Editing (3) F, S Cox

Fundamental principles of periodical publication and methods of editing, manufacturing and distributing magazines of every type. The course includes practical training and instruction in editorial work, such as editing, writing, proofreading, makeup and headline writing. Attention also is given to production problems of the modern-day magazine.

251. The Feature Article (3) F, S Cox

Prerequisite: Journalism 120 or consent of instructor. Covers the feature article for both newspapers and magazines and their free-lance markets. Close attention is given to style, organization, human interest, the use of quotes, leads and article ideas. The emphasis is on clear, readable prose. Writing assignments both in and out of the classroom.

262A,B. Magazine Production (1,1) F, S Cox

Prerequisite: Journalism 237 or 355. Practical experience in magazine and publications planning, organization, writing, photography, art, layout, advertising and production. Supervised work on the University magazine, *UniverCity*. (Laboratory 3 hours.)

270. Introduction to Public Relations (3) F, S Gayer

Public relations fundamentals: research, action, communication and evaluation. Study of special publics, the use of public relations tools, planning a public relations program. Not open to students with credit in Journalism 370.

280. Photojournalism (2) F, S Kelly

Prerequisite: Industrial Arts 101 or consent of instructor. Introduction to photojournalism as used in newspapers, magazines and public relations with emphasis on the news and communication values in pictures. Experience with various types of photography equipment. (Lectures, demonstrations, field trips and practical assignments, journalism activity 4 hours.)

Upper Division

312. The Foreign Press (3) F, S Faculty

An analysis of the world's news media with emphasis on their structure, ownership, social and political roles and the degree of government pressure and control. Particular attention is paid to the position of the media in developing nations. Examination of the methods and problems of the American foreign correspondent.

315. Journalism as Literature (3) S Faculty

Study of "literature under pressure" from 16th century to the present, concentration on works of "New Journalism" by Norman Mailer, Gay Talese, Tom Wolfe, Larry L. King, et al.

320. Reporting Public Affairs (3) F, S Wells
Prerequisite: Journalism 120 or consent of instructor. News coverage of police, courts and city, county, state and Federal government. Study and practice in methods of investigative reporting. (Reporting and writing practice 3 hours.)

321. Television News Writing (3) F, S Faculty
Prerequisites: Journalism 120 and Radio-TV 208 or consent of instructor. Techniques of gathering, writing and editing news for television, including practice with wirecopy, field reporting with camera and sound crew and still pictures. Preparation and presentation of newscasts in laboratory. Not open to students with credit in Journalism 420.

322A,B. Advanced Newspaper Production (2,2) F, S Wells
Prerequisites: Journalism 120, 230 or consent of instructor. Advanced practice in editing, reporting, feature writing, copyreading, news photography and other journalistic activities through participation in the publication of the University newspaper. (Laboratory 6 hours.)

324. Photography for Publication (1) F, S Kelly
Prerequisites: Journalism 280 and 380 or consent of instructor. Students with qualifying photo skills will comprise staff of *Forty-Niner* newspaper. Staffers will be responsible for photographic coverage of campus news and feature events for daily and special edition use. Photographers will practice techniques of newspaper photography through assigned stories as well as personally developed enterprise stories. Individual approach and skills are assessed daily, with staff efforts analyzed at weekly photo conference. Students must provide own camera. Three hours.

325. Radio News Writing and Reporting (3) F, S Garvey
Prerequisite: Journalism 120 or consent of instructor. Techniques of gathering, writing and editing news for radio, including practice with broadcast wire copy, tape recorders and beeper telephone. Preparation and presentation of newscasts in laboratory.

328. Business and Industrial Writing (3) S Faculty
Prerequisite: Journalism 120 or consent of instructor. Focus on the special areas of writing and editing business and industrial periodicals. Special attention will be paid to the vast number of trade publications.

330. Advanced Newspaper Make Up and Editing (3) F, S Wells
Prerequisites: Journalism 120, 230. Study of modern techniques of newspaper design and layout. Theory and practice in the use of pictures, headlines and type to produce attractive newspaper pages while using available news space effectively. (Lecture-discussion 1 hour, laboratory 4 hours.)

350. Contemporary Magazines (3) F Faculty
Development of the magazine and its significance in American life. Periodical types, editorial policies and literary stature. Special study of magazines in a field of the student's particular interest. (Lecture, discussion 3 hours.)

352. Editorial and Critical Writing (3) S Faculty
Prerequisite: Journalism 120 or consent of instructor. Organization, language and content of editorials, columns and other opinion articles. The course will also deal with critical reviewing.

355. Magazine Article Writing (3) F, S Cox, Gayer, Stein
Techniques of writing non-fiction articles with a view toward potential sales to magazines, newspaper syndicates and Sunday supplements.

362A,B. Advanced Magazine Production (2,2) F, S Faculty
Prerequisite: Journalism 237 or 355. Advanced magazine editing, writing, photography, art and production. Participation in publishing the University magazine, *UniverCity*. (Laboratory 6 hours.)

375. Publicity Techniques and Procedures (3) F Faculty
Prerequisites: Journalism 120, 270. Recognizing publicity potentials and writing press releases; how to work with the press and other mass communications media for publicity purposes. Not open to students with credit in Journalism 475.

376. Publications for Public Relations (3) F, S Faculty
Prerequisites: Journalism 120, 270. Techniques of writing, editing and publishing newsletters, business newspapers and magazines as communication tools for public relations. Not open to students with credit in Journalism 476.

380. Advanced Photojournalism (3) S Kelly
Prerequisite: Journalism 280 or consent of instructor. Photographic reporting with a camera. In-depth study of photojournalism with emphasis on creation of photo story ideas, photo essays and feature photos; photo editing and layout as applied to newspapers and magazines.

382A-B. Broadcast News Production (2,2) F, S Garvey
Prerequisites: Journalism 120, 325 or consent of instructor. Reporting, writing and editing of news for broadcast with emphasis on preparation of news copy for the campus radio station (KSUL) and/or other broadcast stations.

383. Critical Reviewing on Radio and Television (3) S Faculty
Prerequisite: Journalism 321 or consent of instructor. Principles and forms in preparing critical reviews for radio and television news broadcasts. The role of the critical reviewer in shaping the popular arts through radio and television. The creative arts and celebrities as news.

410. School Publications (3) F Bliss
A course of practical value to advisers and potential advisers of school newspapers and yearbooks. Organizing staffs; establishing news beats; gathering, writing and editing news; feature stories; planning and editing pictures; typography and layout; dealing with printers; financing school newspapers and yearbooks; advertising; business practices.

412. Theories of Mass Communication (3) F Stone
Prerequisite: Journalism 110 or consent of instructor. Contemporary theories of mass communication. An overview of the development of communication theory as it relates to the mass media. Evaluation of classical and modern theories of the communication process through analysis of the original research upon which the theories were founded. Source, message and audience effects of the communication process.

418. Current Trends in Mass Communication (3) F, S Stone
Discussion of the effects of social trends on the media. A thorough examination of the current state of the mass media in the United States and their relationship to the various political, cultural and social institutions in our society.

419. Precision Journalism (3) S Stone
Prerequisites: Journalism 120 or consent of instructor, junior standing or above. Advanced reporting techniques of the modern news reporter and broadcast journalist. Information gathering methods based on social science research skills adapted for the mass media of communications. Team investigation of local public issues through surveys, analysis of public documents, experimental design and content analysis of official reports.

420. Reporting of Urban Problems (3) F, S Ferrell
Prerequisites: Journalism 120 and 320 or consent of instructor. An advanced course in investigative and interpretive reporting. Students will work in an editor-reporter relationship with the instructor in researching and writing depth pieces on such complex issues as mass transit, air pollution, city government, poverty, crime, housing and drug abuse. Investigative and interviewing techniques will be stressed.

422A,B. Senior Media Production (1,1) F, S Ferrell
Prerequisite: Consent of instructor. Advanced work on campus information media. May include writing, editing, photography, layout or news broadcasting.

428. Newspaper Management (3) S Faculty
Prerequisite: Nine units of journalism. Management side of newspaper publishing, including newspaper organization, budget, personnel, equipment, business accounting, advertising sales and production, labor relations, postal regulations, legal problems and newspaper management techniques.

430. Law of Mass Communications (3) F, S Cunningham
Principles and case studies of the law of the press, radio and television with emphasis on constitutional guarantees, libel, contempt, privacy, copyright, privilege and other laws affecting the news media. (Law-case study 3 hours.)

431. Ethical Problems of the News Media (3) F, S Cunningham
The study of ethical codes and value systems used in writing, editing, producing and presenting the news in the United States today. Case studies of current ethical problems confronting print and broadcast journalists with emphasis on how the student solves each problem.

455. Advanced Magazine Article Writing (3) S Stein
Prerequisite: Journalism 355. Writing of fully developed magazine articles. At least one major, publishable article and at least two other pieces will be required. Heavy stress will be placed on article ideas, research and sophisticated interviewing techniques. Designed especially for students who plan to earn all or part of their income through freelance writing. Professional standards.

460. Newspaper Advertising (3) S Faculty
Advertising principles, layout and copy writing as they apply to the professional newspaper. Theory of retail and national display advertising, classified advertising and legal advertising. Practice in the preparation of newspaper advertising.

470. Institutional Public Relations (3) S Faculty
Prerequisite: Journalism 270 or 370. Study of the structure, methods and functions of an internal corporate public relations department either as a separate entity or in association with an external public relations agency.

471. Agency Public Relations (3) F Faculty
Prerequisite: Journalism 270 or 370. The public relations agency, its structure and its function as a counseling and consulting service in planning and communicating for industry, government and organization clients.

480. Advanced Picture Editing (3) F, S Kelly
Prerequisites: Journalism 210, 230 and 280 or consent of instructor. Principles of picture selection for newspaper and magazine publication. Emphasis on preparing material—written and visual—for use as single picture or layout presentation. (Laboratory 9 hours.)

490. Special Topics in Mass Communications (1-3) F, S Stone
Topics of special interest in mass communications selected for intensive study. Topics will be announced in the *Schedule of Classes*. May be repeated for a total of six units.

494. Research Methods in Mass Communications (3) S Stone
Prerequisite: Consent of instructor. Basic techniques of research in mass communication and mass media. Overview of theory building and hypothesis testing procedures as applicable to current problems in the mass communication field. Scientific methods, survey and experimental design, field studies, analysis of data.

498. Internship (3) F, S Stein
Prerequisite: Consent of department chair. Work of an editorial or writing nature at least one full day a week with cooperating newspaper, magazine, broadcast and public relations organizations in the Los Angeles-Orange County area. Work edited and evaluated by supervisors of the participating media firms. Additional on-campus meetings for discussion of progress and problems.

499. Special Projects (1-3) F, S Faculty
Prerequisite: Advance approval of project by the department. Research in the field of journalism in newspaper, magazine, public relations, advertising or other related fields. Open to journalism majors only.

Language Skills

Director: Mrs. Kakwasi Somadhi.

Language Skills 170A and 170B are courses devoted to helping students improve their use of structural grammar, write well-structured sentences, write well-planned, coherent, unified and detailed paragraphs and, particularly during 170B, learn to write critically analytical papers based on reading material which is an integral part of the two-semester class. Passing of both 170A and 170B is equivalent to the passing of English Composition 100. Student may accomplish this by taking both 170A and B and receiving a passing grade in each, or by successfully passing a special qualifying examination. This examination is administered by the Language Skills Area.

170A. Language Skills (3) F, S Faculty
The first semester course focuses on the intensive development of grammatical skills with some expository writing.

170B. Language Skills (3) F, S Faculty
The second semester course focuses on organizational methods and techniques for writing compositional and expository prose, advanced grammar and some critical reading techniques for term papers.

Linguistics

Director and Graduate Adviser: Janet B. Sawyer.

Professors: Cardenas, Key, McCone, Penalosa, Sawyer.

Associate Professors: Borowiec, Hertz, Inostroza, Ross, Smith, Thomas, Trinidad.

Assistant Professors: Harman, McCullough.

Course offerings in linguistics are designed to serve students desiring to work in the field professionally as well as those desiring to utilize linguistic knowledge and skills in connection with some other occupation or profession, such as teaching or administration.

The curriculum in linguistics is interdisciplinary in nature, the separate courses being offered by various academic departments. Many courses in linguistics for the bachelor of arts degree in the Departments of English and Anthropology are available. The bachelor of arts degree in linguistics is not offered at present.

In addition, students may choose linguistics as their field of concentration for the bachelor of arts degree in liberal studies, or have a personally designed special major for the bachelor of arts degree which is focused upon linguistics. Students desiring further information concerning the linguistics program and the various concentrations in linguistics should consult the programs office in Psychology Building, Room 142.

For graduate courses in linguistics consult the *Graduate Bulletin*. Undergraduate courses in linguistics offered by various departments are as follows:

Anthropology

413. Language and Culture (3)

414. Linguistic Anthropology (3)

471. Linguistic Methodology in Phonetics and Phonemics (3)

472. Linguistic Methodology in Morphology and Syntax (3)

499. Guided Studies in Anthropology (1-3)

Communicative Disorders

361. Language and Speech in Normal and Exceptional Children (3)

371. Phonetics (3)

478. Language and Speech of the Culturally Different (3)

English

420. Structure of Modern English: Phonology (3)

421. Structure of Modern English: Morphology and Syntax (3)

423. Semantics (3)

428. Applied Linguistics (3)

498. Topics in English (1-4)

French

414. French Phonetics (3)

Philosophy

484. Philosophy of Language (3)

Psychology

438. Psycholinguistics (3)

Sociology

485. Sociology of Language (3)

Spanish

425. Spanish Phonetics and Phonology (3)

426. Spanish Morphology and Syntax (3)

427. Contrastive Analysis of Spanish and English (3)

Speech Communication

448. Language and Symbolic Processes (3)

Mathematics

Department Chair: Dr. Arthur P. Gittleman.

Department Vice-Chair: Dr. M. Shafqat Ali.

Professors: Austin, Bachar, Cohen, Fatt, Gittleman, James, McCullough, McLeod, Manheim, Mardellis, Margulies, Martinez, Schwartz, Seewerker, Sexauer, Smith, Smoke, Verdina, Warner, Wenjen.

Associate Professors: Afflack, Albert, Ali, Baugh, Beckwith, Black, Conroy, Councilman, Dorn, Eylar, Foster, Froyd, Harvey, Lu, Maltz, Stein, Turner, Wilson.

Assistant Professors: Gendler, Lax, Wayman.

Credential Adviser: Mr. Robert K. Froyd.

Academic Advising Coordinator: Dr. Robert R. Wilson.

Undergraduate Adviser: Dr. Carl H. Dorn.

Graduate Adviser: Dr. Thomas A. McCullough.

Math Student Association Liaison: Dr. Carl H. Dorn.

The mathematics program is designed to meet a variety of needs including: (1) students preparing for graduate work in mathematics; (2) prospective teachers; (3) students planning to work as mathematicians in industry; (4) students with a special interest in probability and mathematical statistics; (5) non-mathematics majors.

Major in Mathematics for the Bachelor of Arts Degree (code 2-6666)

Lower Division: English 100 and either English 101 or 317; Mathematics 122, 123, 224, and 170 (2 units) or 270, and any one of the following sequences: Physics 100A,B, or Physics 151 and 152; or Philosophy 170 and 270; or eight units of a foreign language.

Upper Division: A minimum of 30 units of approved upper division mathematics courses selected in consultation with major adviser to include Mathematics 346, 444 and 460A-B but not 370A or B.

To achieve flexibility, only 12 of the required 30 units are specified. Students should, therefore, discuss career goals and plan a program with an adviser. For additional information and to secure an adviser contact the Mathematics Department office.

Option in Computer Science and Mathematics (code 2-6667)

Lower Division: English 100, 101 or 317; Mathematics 122, 123, 224, 270, 272; and any one of the following: (a) Physics 100A-B, (b) Physics 151, 152, (c) Philosophy 170, 270, or (d) eight units of a foreign language.

Upper Division: Mathematics 323, 325, 326, 346, 364A or 380A, 444, 460A; Electrical Engineering 440, 442, 444; and at least nine units to be selected from one of the following groups: (a) Mathematics 324, 343, 421, 476A,B, 485; or (b) Mathematics 343, 364B, 380B, 382A,B, 442, 460B, 470; or (c) Mathematics 273, 321, 425.

Option in Statistics (code 2-6008)

Lower Division: English 100 and either English 101 or 317. Mathematics 122, 123, 224, 270; and any one of the following: Physics 100A,B, or Physics 151 and 152; or Philosophy 170 and 270; or eight units of a foreign language, or six units in a field in which approved upper division statistics courses are also taken.

Upper Division: A minimum of 30 units of approved upper division mathematics courses to include Mathematics 323, 346, 380A-B, 382B, 460A and three units of Mathematics 495 or 497 taken after completion of Mathematics 380A. Mathematics 382A and 460B are recommended. Six additional units must be taken in fields outside mathematics; these must be approved by a mathematics adviser. In addition, any student planning to do graduate work in mathematics should take Mathematics 444 and other courses selected in consultation with his/her adviser.

Minor in Mathematics (code 0-6666)

Requirements for the minor in mathematics include Mathematics 122, 123 and 12 units of upper division mathematics.

Master of Arts Degree in Mathematics

A program of study leading to the master of arts degree in mathematics is offered. For detailed information concerning requirements see the *Graduate Bulletin.*

Placement Test

The Mathematics Placement Test may be used, at the option of the student, as a substitute for the formal course prerequisites, for the following courses: Mathematics 100, 101, 102, 114, 115B, 115S, 117 and 180. Testing dates are announced in the *Schedule of Classes.* To schedule a Placement Test a student must pay a fee at the Business Office and take the receipt to the Testing Office to sign up for the test.

Lower Division

100. Intermediate Algebra (3) F, S Faculty
Prerequisite: One year of high school algebra or its equivalent (e.g., elementary algebra at a two-year college). Study of linear and quadratic equations, factoring, fractions, exponents, radicals, variation and logarithms. Not open to students with credit in Mathematics 102, 104B, 112, 117 or 122.

101. Trigonometry (2) F, S Faculty
Prerequisite: Mathematics 100 or two years of high school algebra. Trigonometric functions and applications. Complex numbers. Not open to students with credit in Mathematics 112, 117 or 122.

102. Unified Algebra and Trigonometry (4) F, S Faculty
Prerequisite: One year of high school algebra or its equivalent (e.g., elementary algebra at a two-year college). Content course covering algebra and trigonometry. Not open to students with credit in Mathematics 100, 101, 104B, 112, 117 or 122.

103. Liberal Arts Mathematics (3) F, S Faculty
Nontechnical course for general education emphasizing the ideas and concepts of mathematics. Will include topics such as number patterns, binary arithmetic, puzzles and games, map coloring problems and concepts in geometry. Offered on a credit/no credit basis only.

104A-B. Intermediate Algebra (3,3) F, S Faculty
Prerequisite: Consent of instructor. Mathematics 104A is a prerequisite for Mathematics 104B. Development of mathematics skills with emphasis on application through word problems. Topics to include algebra of signed numbers, real number properties, linear and quadratic equasions and inequalities, fractions, polynomials, exponents, radicals and logarithms. The completion of Mathematics 104A and B is equivalent to Mathematics 100. Not open to students with credit in Mathematics 100, 102 or 122.

105. Business Calculus Review (1) F, S Faculty
Prerequisite: Mathematics 115B. Corequisite: Economics 333. Review basic concepts of differential calculus as they are used in economics. Introduce calculus of several variables. (Lecture 3 hours per week for the first third of the semester.) (Credit/No Credit only.)

109. Math Ideas for Teachers (1) F, S Faculty
Topics in mathematics applicable to teachers. Through the use of manipulative materials, games, mathematical activities and puzzles, students will explore mathematical concepts in a creative, open environment.

110. Mathematics for Elementary Teachers I (3) F, S Faculty
Prerequisites: One year of high school algebra, one year of high school geometry. Theory of the structure, arithmetic and algebra of the real number system. Designed for prospective elementary teachers. Not open for credit to mathematics majors.

111. Mathematics for Elementary Teachers II (3) F, S Affiack
Prerequisite: Mathematics 110. Elements of logic and the basic concepts of informal geometry; introduction to trigonometry. Not open for credit to mathematics majors.

112. College Algebra (3) F, S Faculty
Prerequisite: Mathematics 102 or both Mathematics 100 and 101 or two years of high school algebra including trigonometry. Study of algebra including linear and quadratic equations and systems; matrices and determinants; theory of equations; polynomial, exponential and logarithmic functions and their graphs; permutations and probability. Designed for students majoring in a life or social science. Not open to students with credit in Mathematics 117 or 122.

113. Mathematics of Investment (3) F, S Faculty
Prerequisite: Mathematics 100 or equivalent. Simple interest and discount; compound interest, annuities; amortization and sinking funds; valuation of bonds; depreciation, capitalization, perpetuities.

114. Finite Mathematics (3) F, S Faculty
Prerequisite: Mathematics 100 or 102 or two years of high school algebra. Elementary set theory. Combinatorial techniques and introduction to probability. Vectors, matrices, equations of lines and systems of linear equations.

115B. Calculus for Business (3) F, S Faculty
Prerequisite: Two years of high school algebra, or Mathematics 100, or the equivalent. Real numbers and functions, differentiation of functions of one and several variables. Applications to the business sciences. Integration of functions of one variable. Emphasis on problem-solving techniques rather than theory. Not open to students with credit in Mathematics 115, 115S, 120 or 122.

115S. Survey of Calculus I (3) F, S Faculty
Prerequisite: Mathematics 112 or its equivalent. Real numbers and functions; limits and continuity; differentiation and integration of functions of one variable with applications to physical, life and social sciences. Emphasis on problem-solving techniques rather than theory. Not open to students with credit in Mathematics 115, 115B, 120 or 122.

116. Survey of Calculus II (3) F, S Faculty
Prerequisite: Mathematics 115 or 115S. Further topics in differentiation and integration of functions of one variable including numerical integration, use of tables and improper integrals; introduction to calculus of several variables and elementary differential equations. Not open to students with credit in Mathematics 123 or 224.

117. Precalculus Mathematics (4) F, S Faculty
Prerequisites: At least 3½ years of high school mathematics including at least 2 years of algebra and ½ year of trigonometry, or Mathematics 101 or 102. Properties of elementary functions, binomial theorem, matrices and determinents, conic sections and selected topics. Not open to students with credit in Mathematics 122. (Lecture 3 hours, problem session 2 hours.)

122. Calculus I (4) F, S Faculty
Prerequisite: A grade of C or better in Mathematics 117 or four years of high school mathematics including two years of algebra, one year of geometry, one-half year of trigonometry and one additional senior-level course. Analytic geometry of the plane. Notion of limit. Differentiation and integration of elementary functions and applications. (Lecture 3 hours, problem session 2 hours.)

123. Calculus II (4) F, S Faculty
Prerequisite: A grade of C or better in Mathematics 122. Extension of work in analytic geometry. Differentiation and integration of transcendental functions. (Lecture 3 hours, problem session 2 hours.)

170. Introduction to Programming (1-2) F, S Faculty
Introduction to computing using a conventional on-line computing language. Flowcharting and elementary computer programming with several exercises to be run on a computer (no particular mathematics background assumed), with project chosen according to the student's background. Credit/no credit basis only.

171. Computer Calculus (1) F, S Faculty
Prerequisite: Concurrent registration in a calculus course. Introduction to computing, with applications involving calculus, using a conversational on-line computing language. Not open for credit to students with credit in Mathematics 170.

180. Elementary Statistics (3) F, S Faculty
Prerequisite: Mathematics 100 or 102 or two years of high school algebra. Nature of statistics and probability theory, description of sampled data. Random sampling, normal distribution assumption and its consequences; tests of hypotheses and estimation; correlation, regression, analysis of variance. Non-parametric methods. (Lecture 3 hours.)

224. Calculus III (4) F, S Faculty
Prerequisite: A grade of C or better in Mathematics 123. Solid analytic geometry and introductory vector analysis in three dimensions. Functions of two and more variables. Partial derivatives and multiple integrals. Introduction to infinite series and linear differential equations. (Lecture 3 hours, problem session 2 hours.)

246. Elementary Linear Algebra (3) S Faculty
Prerequisite: Mathematics 114 or Mathematics 117 or consent of instructor. Vectors. Matrices: Matrix operations, rank, determinant and similarity. Methods for inverting a matrix and solving systems of linear algebraic equations. Methods of obtaining eigenvectors of matrices. Applications in business and in natural and social sciences. Emphasis on computational methods rather than theory.

270. Introduction to Computing (3) F, S Cohen, Conroy, Lu, Seewerker, Wilson
Prerequisite: Mathematics 117 or consent of instructor. Computers and algorithms. Programming in machine, assembly and higher level languages. Computer solution of numerical and nonnumerical problems using these languages.

272. Techniques of Programming (4) F Cohen, Gittleman, Margulies, Seewerker, Wilson
Prerequisite: Mathematics 270. Elements of programming style, structured programming and algorithmic analysis. Computer projects to illustrate these concepts. (Lecture 3 hours, problem session 2 hours.)

273. COBOL Programming (3) F, S Faculty
Prerequisite: A previous course in computing, such as Mathematics 270 or Quantitative Systems 240. Fundamentals of the computer programming language COBOL. Data division, input and output file handling for tapes and disks. Computer assignments using COBOL. Not open to students with credit in Computer Information Science 273. (Lecture 3 hours.)

281. Elementary Survey Sampling (3) F, S Faculty
Prerequisite: Mathematics 180 or equivalent. Introduction to various methods for designing sample surveys such as the Gallup Poll. Random sampling, stratified sampling, ratio estimation, cluster sampling, sample size and design efficiency.

297. Directed Study (1-3) F, S Faculty
Prerequisite: Consent of instructor. Designed for students who wish to undertake special study, at the lower division level which is not a part of any regular course, under the direction of a faculty member. Individual investigation, studies or surveys of selected problems.

Upper Division

310. History of Mathematics (3) S Baugh, Black, Gittleman
Prerequisites: Mathematics 116 or 123. Designed to trace the continuous growth and development of mathematical thought and practices from the primitive origins to the present. Fundamental concepts, methods and developments are studied; evolution of areas in mathematics is traced. Recommended for all mathematics majors and minors preparing to teach.

317. Introduction to Abstract Mathematics (3) F, S Faculty
Prerequisite: Mathematics 123. Introduction to topics in modern mathematics that are independent of calculus and which form a background for further study in abstract mathematics. Selections from elementary number theory, rings, fields and other algebraic systems. Not open for credit to anyone with a grade of C or better in Mathematics 444.

321. Information Systems Using COBOL (4) F Seewerker
Prerequisite: Mathematics 273. Study of information systems based on COBOL. Review of basic COBOL programming and introduction to advanced features with emphasis on advanced file handling techniques and organization. Data base management systems. Several computer projects in the design and implementation of information systems. (Lecture 3 hours, problem session 2 hours. This course may not be counted toward the 30 upper division units required for the B.A. in mathematics.)

323. Programming in Analysis (4) F Cohen, Lu
Prerequisites: Mathematics 224, 270. Recommended: Mathematics 364A. Application of computer programming to obtain numerical solutions of problems in analysis to include roots of a single nonlinear function by iteration, integration, solution of differential equations, interpolation. (Lecture-discussion 3 hours, problem session 2 hours.)

324. Programming in Algebra (4) F Cohen
Prerequisites: Mathematics 123, 270. Recommended: Mathematics 246 or 346. Application of computer programming to obtain numerical solutions of problems in algebra to include the exact and iterative solutions of simultaneous linear equations, calculation of characteristic values, matrix inversion and transformations, least squares data smoothing. (Lecture-discussion 3 hours, problem session 2 hours.)

325. Computer Systems and Programming (4) F, S Margulies, Seewerker
Prerequisite: Mathematics 270. Machine language, machine organization, computer systems, information structures and programming languages. Emphasis will be on machine-oriented languages. (Lecture 3 hours, problem session 2 hours.)

326. Advanced Symbolic Programming (4) F, S Seewerker
Prerequisite: Mathematics 325 or consent of instructor. Input-output, interrup handling, operating systems, macros and macro processing, time-sharing, virtual memory and paging and further topics. Several computer projects will be done. (Lecture 3 hours, problem session 2 hours.)

330. Introduction to Mathematical Logic (3) F, S Beckwith, Conroy, Mardellis, Seewerker, Turner, Wilson
Prerequisite: Mathematics 115S or 122. Symbolic methods of propositional calculus, general theory of inference, transition from formal to informal proofs, theory of definition, elementary set theory and axiomatic method.

340. Theory of Algebraic Equations (3) F, S Faculty
Prerequisite: Mathematics 116 or 123. Complex numbers, general theorems on algebraic equations, the discriminant, location and approximation of roots of equations, solution of the cubic and quartic equation; determinants and their application to simultaneous linear equations, symmetric functions.

343. Discrete Structures and Combinatorics (3) F Faculty
Prerequisites: Mathematics 123 and one of Mathematics 170, 270 or Electrical Engineering 241. Topics in combinatorics including undirected and directed graphs, trees, permutations and combinations, recursive relations, generating functions and enumeration algorithms. Boolean algebras. Applications to computing and discrete probability.

346. Linear Algebra (3) F, S Faculty
Prerequisite: Mathematics 224. Matrices and matrix algebra. Vector spaces. Determinants, characteristic vectors, characteristic values, Cayley-Hamilton theorem. Similar matrices, diagonalization and triangularization of matrices. Linear transformations. Introduction to inner product spaces.

350. Projective Geometry (3) S Verdina
Prerequisite: Mathematics 224 or consent of instructor. Homogeneous coordinates. Projectivities. Collineations and correlations. Polarities. Projective properties of conics. Linear and quadratic transformations. Introduction to differential geometry.

352. Introduction to Topology (3) F, S Faculty
Prerequisite: Mathematics 224. Introduction to the basic concepts of point set topology such as topological spaces, continuous functions, compactness and metric spaces. Recommended for those who intend to study analysis, complex analysis or differential geometry.

355. College Geometry (3) F Verdina
Prerequisite: Mathematics 116 or 123. Transformations, motions, similarities, geometric objects, congruent figures, the axioms of geometry, and selected topics in advance Euclidean geometry.

360. Fundamental Concepts of Analysis (3) F, S Faculty
Prerequisite: Mathematics 123. Modern approach to the concepts of calculus. Introductory set theory, elementary logic, the real number system, relations, functions, cardinality of sets, metric sets, limits, continuity, differentiation and integration. Not open for credit to anyone with a grade of "C" or better in Mathematics 460A or 460B.

364A. Ordinary Differential Equations I (3) F, S Faculty
Prerequisite: Mathematics 224. General theory of linear differential equations, variation of parameters, the Wronskian, first, second and third order equations with variable coefficients. Not open to students with credit in Mathematics 363.

364B. Ordinary Differential Equations II (3) S Cohen, Fatt
Prerequisite: Mathematics 364A. Fundamental existence theorems, systems of equations, general theory of first order equations, special functions defined by differential equations, nonlinear equations.

370A. Applied Mathematics I (3) F, S Faculty
Prerequisite: Mathematics 224. Ordinary differential equations, functions of several variables, algebra and geometry of vectors, vector field theory. Not open for credit to mathematics majors.

370B. Applied Mathematics II (3) F, S Faculty
Prerequisite: Mathematics 370A. Applications of partial differentiation, Taylor's formula, infinite series, complex variables. Not open for credit to mathematics majors.

375. Vector Analysis (3) F, S Faculty
Prerequisite: Mathematics 224. The algebra and calculus of vectors; applications to geometry. Vector and scalar fields; gradient, divergence, and curl. Applications in mechanics and electromagnetism. Introduction to tensor analysis.

380A-B. Mathematical Statistics (3,3) F, S Black, Cohen, Maltz, Martinez, Smoke
Prerequisite: Mathematics 224. Sample space, random variable, distribution function. Empirical and theoretical distributions of one variable. Elementary sampling theory for one variable. General principles for testing hypotheses and for estimation. Small sample distributions. Correlation and regression. Goodness of fit tests. Design and analysis of experiments. Non parametric methods.

382A-B. Introduction to Probability and Random Processes (3,3) F, S Albert, Black, Foster, James
Prerequisite: Mathematics 224. Discrete probability. Basic concepts of combinatorial analysis. Axioms for a general probability space. Random variables. Distribution functions. Density functions. Expectation and variance. Dependent and independent events. Conditional probability and limit theorems. Recurrent events and the renewal equation; discrete parameter Markov chains; elementary time-dependent stochastic processes.

421. Artificial Intelligence (4) S Gittleman
Prerequisites: Mathematics 270, 272, and one of Mathematics 317, 330, 346 or 444. Selected topics from heuristic programming, pattern recognition, learning systems, problem solving systems and formal symbol manipulating systems. (Lecture 3 hours, problem session 2 hours.)

425. Information Structure and Files (3) S Seewerker
Prerequisite: Mathematics 325. Basic concepts of the nature and use of data as related to the computer. Trees, graphs, computer storage systems, file organization, manipulation and data retrieval. Several computer projects illustrating these concepts.

430. Mathematical Logic (3) S Turner, Wilson
Prerequisite: Mathematics 330. Introduction to formal logical systems. Formal proofs in propositional and first order predicate calculi. Completeness theorems and problems related to consistency and decidability.

440A. Number Theory I (3) F Cooke, Eylar, Gittleman
Prerequisite: Mathematics 224. The sequence 440A-B covers divisibility, congruences, primitive roots, continued fractions, algebraic numbers, partitions.

440B. Number Theory II (3) S Cooke, Eylar, Gittleman
Prerequisite: Mathematics 440A. Continuation of Mathematics 440A.

442. Introduction to Algebraic Coding Theory (3) S Ali
Prerequisite: Mathematics 246 and 317 or an equivalent knowledge of linear and modern algebra. The coding problem; the Hamming metric; maximum likelihood decoding; binary repetition codes; basic properties of vector spaces of n-tuples; construction of finite fields; linear codes including Hamming codes and Reed-Muller codes; encoding and decoding in Reed-Muller capabilities; other codes as time permits.

444. Introduction to Higher Algebra (3) F, S Faculty
Prerequisite: Mathematics 224. Recommended: Mathematics 317. Groups, subgroups, cyclic groups, symmetric groups, Lagrange's theorem, quotient groups. Homomorphisms and isomorphisms of groups. Rings, integral domains, ideals, quotient rings, homomorphisms of rings. Further topics in groups, rings and fields as time permits. Not open to students with credit in Mathematics 344.

460A. Advanced Calculus I (3) F, S Faculty
Prerequisite: Mathematics 224. Recommended: Mathematics 360. Rigorous analysis of calculus and its foundations, functions of one variable and of several variables.

460B. Advanced Calculus II (3) F, S Faculty
Prerequisite: Mathematics 460A. Continuation of Mathematics 460A.

461. Complex Variables (3) F, S Faculty
Prerequisite: Mathematics 460A. Theory and applications of complex variables. Analytic functions, integrals, power series and applications.

462. Theory of Integration (3) F Bachar, Gittleman, Harvey, Warner
Prerequisite: Mathematics 460A. Advanced topics in Riemann Integration. Lebesgue measure and integration on the real line.

470. Introduction to Partial Differential Equations (3) S Lu, McLeod, Margulies
Prerequisite: Mathematics 370A, or 364A and 375. Linear first and second order equations, characteristics, elliptic, hyperbolic, and parabolic equations. Introduction to the boundary and initial value problems of mathematical physics.

472. Fourier Series (3) F Lu, Warner
Prerequisite: Mathematics 364A or 370A. Theory of Fourier series and its application to boundary value problems.

473. Laplace Transform (3) S James, McCullough
Prerequisite: Mathematics 364A or 370A. Theory of the Laplace transform and its application to linear problems in electrical, mechanical and thermal systems.

476A-B. Numerical Analysis (3,3) F, S Cohen, Lu
Prerequisite: Mathematics 364A. Mathematics 270 and 346 are recommended. Methods of computation suitable for desk or electronic digital computers. Polynomial interpolation. Numerical differentiation and integration. Numerical solution of differential equations. Least Squares. Solution of non-linear and simultaneous linear equations. Eigenvalues and eigenvectors of matrices. Mathematics 476A not open to students with credit in 476.

485. Mathematical Programming (3) S Cohen, Gittleman
Prerequisites: Mathematics 346 and senior standing. Linear and nonlinear programming: simplex methods, duality theory, theory of graphs, Kuhn-Tucker theory, gradient methods and dynamic programming.

491. Secondary School Mathematics Seminar (1) F, S Dorn
Prerequisite: Concurrent enrollment in Education Single Subject 470A or 470B or possession of a valid California Credential. Study of the content of the secondary mathematics curriculum as it applies to mathematics teaching problems, classroom techniques, performance evaluation.

495. Topics in Modern Mathematics (3) F, S Faculty
Prerequisite: Consent of instructor. Topics of current interest from mathematics literature in the following fields: (a) foundations, (b) algebra and number theory, (c) geometry and topology, (d) analysis, (f) probability and statistics, (g) applied mathematics. May be repeated once for credit.

497. Directed Studies (1-3) On demand Faculty
Prerequisites: Junior or senior standing and consent of instructor. Readings in areas of mutual interest to student and instructor which are not a part of any regular course. A written report or project may be required. May be taken for a maximum of three units of credit.

Graduate Division

530A-B. Foundations of Mathematics (3,3)

540A-B. Higher Algebra (3,3)

550A-B. Topology (3,3)

561A-B. Real Analysis (3,3)

562A-B. Theory of Functions (3,3)

570. Advanced Applied Mathematics (3)

575. Calculus of Variations (3)

580A-B. Advanced Mathematical Statistics (3,3)

590. Theory of Approximation (3)

695. Seminar in Mathematics (3)

697. Directed Studies (1-3)

698. Thesis (2-4)

Mediaeval and Renaissance Studies

Director: F.L. Peccorini (Philosophy).

Professors: R.A. Abou-El-Haj (History), A. Axelrad (English), D. Boutelle (History), D.N. Cárdenas (Spanish-Portuguese), G. Crane (English), S. Knafel (English), L. Lerner (Physics), A. Lipski (History, Religious Studies), R. Lindgren (History), L. Lubbe (English), R. McKay (German, Russian, Classics), J. Marin (Spanish-Portuguese), F.L. Peccorini (Philosophy), L. Thomas (French-Italian), C.G. Rayner (Music).

Associate Professors: D. Abrahamse (History), I. Bartenbach (German, Russian, Classics), A.R. Bell (English), R.H. Eisenman (Religious Studies), D. Guerriere (Philosophy), E.A. Gosselin (History), J. Jernigan (Comparative Literature), E.E. Kessler (French-Italian), D. Martel (Art), G.A. Spangler (Philosophy), P. Yperman (French-Italian).

Assistant Professors: N. Battaglia (Religious Studies), B.M. Greer (Art), J.V. Scott (Political Science).

The Center for Mediaeval and Renaissance Studies has established an interdisciplinary program which offers students interested in these periods the opportunity to pursue a course of study leading to a Certificate in Mediaeval or Renaissance Studies. Courses which are used to meet the certificate requirements may be counted, where applicable, toward the general education requirements, the major and teaching minor requirements.

It is the objective of the center to act as a base where scholarly activity in mediaeval and Renaissance periods may be encouraged and supported on all academic levels through on-campus courses, field research and an active program of European research on the Continent, in Scandinavia and in England. The center sponsors summer institutes of innovative, interdisciplinary courses and a regular academic-year program of faculty colloquia, guest lectures and a student research seminar.

The center is associated with the Mediaeval Academy of America (CARA Division), The Mediaeval Association of the Pacific, the Early English Text Society, SATF (the French mediaeval text organization), the France-American Society, the American Historical Association and other scholastic and honorary groups relevant to contemporary research.

Interested students should apply to the Director, Dr. F.L. Peccorini, Philosophy Department, HOB-901, or to members of the supporting faculty for further information.

Requirements for the Certificate in Mediaeval or Renaissance Studies:

1. A bachelor's degree with an approved major. (Certificate may be completed prior to the completion of the B.A. requirement or while in the process of working toward an advanced degree.)
2. Consultation and approval of the program with a faculty adviser.
3. Intermediate level language proficiency on the college level, including a course in mediaeval or Renaissance literature of the language. It is expected that the language selected will be Latin, but with the consent of the adviser, Anglo-Saxon, French, German, Italian, Spanish or Greek may be substituted.
4. Twenty-four units selected from the following courses. Students should elect to concentrate in either the mediaeval or Renaissance period.
   a. Required courses (12 units): one of the following sequences for six units: History 316, 317, or 317, 332, or 332, 333. One of the following literature courses for three units: Comparative Literature 431, 432; English 451, 452. One of the following art history courses for three units: Art 313A, 313B, 314A, 314B, 314C.
   b. Nine units selected from the following courses: Art (history) 311, 313A,B, 314A,B,C, 499Q*; Comparative Literature 349*, 422, 430, 431, 432, 449*, 450*; English 426, 431, 451, 452, 462, 463, 468A, 469*; French 470, 471; German 315; Greek 490*, 499*; History 301*, 316, 317, 318A,B, 332, 333, 341A, 353, 411, 431, 432, 490*, 494, 495*, 499*; Latin 490*, 499*; Music 360; Philosophy 403; Political Science 301, 302; Religious Studies 314, 331, 471, 472, 490*, 494*, 495*; Spanish 474; Theatre Arts 321, 422, 490*.
   Graduate courses: Art 611*; English 550, 551, 652, 661, 681; French 604, 685; German 511; History 510*, 611, 631*, 651; Music 561; Philosophy 630*, 690*; Spanish 505, 535, 538; Theatre Arts 621*.
   c. Three units of directed research on a mediaeval or Renaissance topic in any of the following courses: Art (history) 497, Comparative Literature 499, English 499, French 499, German 499, Greek 499, History 498, Religious Studies 490, Philosophy 499, Spanish 499, Theatre Arts 498.
   Graduate courses: Art (history) 697, English 697, French 697, German 652, 697, History 697, Philosophy 697, Spanish 697, Theatre Arts 694.

*On an approved mediaeval or Renaissance topic only certain special studies topics may be repeated for credit with approval.

Mediterranean Studies

Mediterranean studies offers an interdisciplinary approach to the classical world which combines history, language, philosophy and literature.

Since the program draws upon a variety of traditional disciplines, the student will be exposed to diverse courses designed to present various aspects of the classical world. Specifically, this program is designed to serve the interests and goals of (1) classics, history, philosophy, English and comparative literature majors who wish to broaden their own knowledge about the ancient world, (2) students who plan to teach about this period or teachers already in the field who need to update their own knowledge, (3) the general student who wishes to explore a further educational dimension by focusing on the roots of the Western tradition.

Students pursuing any approved degree or credential program of the University may at the same time earn a Certificate in Mediterranean Studies. Courses taken to meet the requirements may also simultaneously be used, where applicable, to meet general education requirements or the degree or credential requirements of cooperating departments. Certification of successful completion of requirements will be issued upon the recommendation of the Director of the Certificate in Mediterranean Studies program. For further information contact the director, Dr. Mary Purcell, HOB-204.

Requirements for the Certificate in Mediterranean Studies:

Twenty-six semester units are required for a certificate, which normally may be completed in one year.

1. A bachelor's degree with a traditional major. (Certificate requirements may be completed prior to completion of the B.A.)
2. A minimum of two semesters of *either* Greek 221-222 *or* Latin 221-222 *and* History 231.
3. Fifteen units chosen from four of the disciplines listed below chosen in consultation with the student's adviser. No more than six units of any one discipline shall apply towards the certificate, excluding the requirements in No. 2.
4. Cumulative GPA of 2.50 in all courses in the student's approved certification program.

Mediterranean Studies Courses:

A. Greek 331, 332, 342, 351, 490*, 499*.
B. Latin 331, 332, 351, 352, 490*, 499*.
C. History 313, 314, 318A, 490*, 495*.
D. Comparative Literature 421 (same course as Theatre Arts 421), 452*, 499*, English 431, 499*, Political Science 415.
E. Philosophy 203, 420, 421, 422, 499*.

*If applicable and approved by student's adviser.

Philosophy

Department Chair: Mr. William M. Johnson.

Professors: Bonis, Kim, McGowan, Massey, Maue, Peccorini, Ringer, Strickler.

Associate Professors: Andre, Clark, Guerriere, Johnson, Quest, Spangler.

Academic Advising Coordinator: Mr. William M. Johnson.

The philosophy curriculum is designed for two purposes: (1) To make available to students the opportunity of meeting the general education requirements. To this end, generic lower division and upper division courses are designed to contribute to the general education of the student. They are intended to give practice in reflective thinking and aid the student in formulating a personal philosophy of life. The student is introduced to the basic problems of philosophy, and opportunity is given for understanding of representative approaches to their solution. Appropriate emphasis is placed upon practical and current problems. (2) To make available to students the opportunity of meeting the requirements for a major in philosophy. To this end, in addition to generic courses, specialized courses are designed to acquaint the student with the history of philosophy and related areas. These courses are intended for those who are seeking a liberal arts degree and/or those who plan to teach philosophy, for pre-professional students in such areas as theology and law, and as a foundation for graduate studies in the areas of library science, social science, diplomacy, theoretical physical science, and specialized historical studies.

Major in Philosophy for the Bachelor of Arts Degree (code 2-6807)

A minimum of 36 units in philosophy divided as follows:

Lower Division: A minimum of 12 units in philosophy, including Philosophy 100 or 160, 170 or 270, 203 and 204.

Upper Division: A minimum of 24 units in philosophy, including Philosophy 442 463, 482; and at least 6 units chosen from 413, 414, 421, 422, 423, 424; and at least 3 units chosen from 304, 312, 313, 316, 403, 418, 419, 426. The required 6 units remaining are to be selected from philosophy courses with the advice and consent of the student's departmental adviser.

Minor in Philosophy (code 0-6807)

The minor in philosophy provides a structured yet flexible program for the student majoring in a different discipline, but who is interested in philosophy either as an adjunct to the degree major or as a foundation for the student's future intellectual life.

A minimum of 21 units in philosophy, of which at least 15 are upper division and include: (a) at least three units chosen from Philosophy 442, 463, 482; (b) at least three units chosen from Philosophy 413, 414, 421, 422, 423, 424; (c) at least three units selected from the list given in (b), but in addition to the units required in (b), *or* selected from Philosophy 304, 312, 313, 316, 403, 418, 419, 426.

Master of Arts Degree in Philosophy
Master of Arts Degree in Asian Studies

Programs of study leading to the master of arts degree in philosophy and the interdisciplinary master of arts degree in Asian studies are offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

100. Introduction to Philosophy (3) F, S Faculty
Scope, basic principles and a brief analysis of the major problems of philosophy.

110. Life and Death in Eastern and Western Philosophy (3) F Lipski, Peccorini
Exploration of the evolution of ideas on life and death through the ages, as expressed in eastern and western philosophy. Same course as Religious Studies 110.

160. Introductory Ethics (3) F, S Faculty
Concepts of right and wrong, good and bad, and the application of moral principles to problems of everyday life.

170. Traditional Logic (3) F, S Faculty
Elements of clear, straight, orderly thought, including deductive and inductive reasoning; and the accurate use of language.

203. History of Early Philosophy (3) F, S Faculty
From Thales to the Renaissance including the systems of Socrates, Plato and Aristotle, and their influence on European philosophy through the medieval period.

204. History of Modern Philosophy (3) F, S Faculty
From the Renaissance to the 20th Century, including the development of modern scientific processes, and the philosophical systems of empiricism, rationalism, idealism, etc.

270. Symbolic Logic I (3) F, S Faculty
Introduction to the formal techniques of evaluating arguments.

Upper Division

304. Philosophies in America (3) S Ringer
Prerequisite: One lower division philosophy course. Background and development of philosophical ideas, including puritanism, pragmatism, logical empiricism, naturalism, humanism.

305. Philosophy in Literature (3) F Clark, Massey, Ringer
Discovery and exploration of philosophical ideas in selected literature.

306. Philosophies of China and Japan (3) S Kim
Prerequisites: Six units of philosophy or consent of instructor. Historical and critical study of the philosophical thought of China and Japan.

307. Philosophies of India (3) F Kim
Prerequisites: Six units of philosophy or consent of instructor. Historical and critical survey with emphasis on basic ideas and traditions.

312. Phenomenology (3) S Bonis, Guerriere
Prerequisites: Six units of philosophy. Development and impact of phenomenology, as exemplified in the philosophy of Husserl and others.

313. Development of Existentialism (3) F Bonis, Guerriere, Peccorini
Prerequisites: Six units of philosophy. From Kierkegaard to Sartre.

316. Pragmatism (3) S Quest, Ringer
Prerequisites: Six units of philosophy or consent of instructor. Development of pragmatism as exemplified in the philosophies of Peirce, James, Dewey and Mead.

330. Philosophy of Religion (3) F, S Bonis, Guerriere, Kim, Peccorini, Quest, Strickler
Prerequisite: Three units of philosophy. Nature and function of religion and of fundamental religious concepts and ideals.

351. Philosophy of the State (3) F Ringer
Democracy, individualism, socialism, cooperativism, communism and authoritarianism in terms of their underlying philosophical principles and beliefs.

352. Philosophy of Law (3) S Kim, Ringer
Prerequisites: Six units of philosophy or consent of instructor. Study of the historical development of the philosophy of law and examination of the problems in the field ranging from general theories to analysis of fundamental legal concepts and normative issues.

353. Philosophy of History (3) F Ringer
Prerequisites: Six units of philosophy or consent of instructor. Theories of history, and examination of presuppositions, basic concepts and categories.

360. Ethics and Ecology (3) F, S Massey
Philosophical look at ecological problems. Survey of a number of ethical positions held by the great philosophers will be made and current ecological problems will be looked at from the points of view of the ethical positions studied. Not open to students with credit in Environmental Studies 360.

361. Aesthetics (3) F Massey, Quest
Prerequisite: One lower division philosophy course. Art as a cultural phenomenon, emphasizing the relation of the fine arts to each other, to the practical arts, to science, and to the good life. Exploration of the philosophic bases of criticism and creativity.

381. Philosophy of Science (3) F Clark, Maue
Prerequisites: Nine units of natural science. Problems, methods and fundamental concepts of the sciences, including the relationships of the sciences to each other, to mathematics and to philosophy.

403. Medieval Philosophy (3) F Guerrière, Peccorini, Spangler
Prerequisites: Philosophy 203 and three additional units of philosophy or consent of instructor. From St. Augustine to Ockham with emphasis on the problems of knowledge, nature of God and theories of society.

413. Continental Rationalism (3) F Bonis, Clark, Massey
Prerequisites: Six units of philosophy. Descartes, Spinoza and Leibnitz, and some significant contributions of their successors.

414. British Empiricism (3) S Clark, McGowan
Prerequisites: Six units of philosophy. Locke, Berkeley, Hume, and some significant contributions of their successors.

418. Philosophies of Process (3) S Faculty
Prerequisites: Six units of philosophy. Philosophical thought of Bergson, James, Whitehead and others in contrast to traditional substance philosophies.

419. Contemporary Analytic Philosophy (3) F Andre, Johnson, Spangler
Prerequisites: Philosophy 100, 170 and at least one upper division philosophy course. Major ideas and philosophers in linguistic and logical analysis with emphasis on theory of knowledge.

421. Plato (3) F Guerriere, Spangler, Strickler
Prerequisites: Six units of philosophy. Thought of Plato based primarily on readings from his dialogues.

422. Aristotle (3) S Guerriere, Spangler, Strickler
Prerequisites: Six units of philosophy. Thought of Aristotle based primarily on readings from his works.

423. Kant (3) F Bonis, Johnson, Peccorini
Prerequisites: Six units of philosophy (three in logic or history of philosophy) or consent of instructor. Study of Kant's Critique of Pure Reason.

424. Hegel (3) S Bonis, Guerriere, Strickler
Prerequisites: Six units of philosophy (three in logic or history of philosophy) or consent of instructor. Study of Hegel's logic and the phenomenology of spirit.

425. Individual Philosophers (3) F Faculty
Prerequisite: Consent of instructor. An influential philosopher not generally examined in depth in other established courses. May be repeated for a maximum of 6 units.

442. Metaphysics (3) F, S Bonis, Guerriere, McGowan, Peccorini, Strickler
Prerequisites: Six units of philosophy or consent of instructor. Problems of ontology and cosmology including such concepts as matter and energy, time and space, evolution and causality.

463. Ethics (3) F, S Andre, McGowan, Quest, Strickler
Prerequisite: Philosophy 100 or 160. Selected ethical systems using primary source materials.

464. Theories of Value (3) S Bonis, Kim, Massey, Maue, Quest
Prerequisites: Six units of philosophy including Philosophy 100 or 160. Clarification and exploration of common features shared by moral, aesthetic, social, religious, and intellectual norms.

470. Symbolic Logic II (3) F, S Clark, Quest
Prerequisite: Philosophy 270 or Mathematics 330 or consent of instructor. Philosophical consideration of deductive systems.

481. Philosophy of Perception (3) F Johnson, McGowan
Prerequisites: Six units of philosophy or consent of instructor. Relation of perception to knowledge.

482. Epistemology (3) F, S Andre, Clark, Johnson, McGowan
Prerequisite: Philosophy 100 or 170. Examination of the phenomena of knowing, and of concepts involved in knowledge.

483. Philosophy of Mind (3) F Clark, Johnson
Prerequisites: Six units of philosophy or consent of instructor. Nature of the mind. Psychological concepts such as intention, consciousness action, motive, imagination, belief and purpose.

484. Philosophy of Language (3) S Guerriere, Johnson, McGowan, Spangler
Prerequisites: Six units of philosophy or consent of instructor. Philosophical thought about language and meaning.

485. Philosophy of Action (3) F Clark, Johnson, Spangler
Examination of the literature and problems concerning the idea of an action; emphasis on the relation between an action and bodily movements, and the relation between acts and intentions and desires. Course stresses individual research and seminar reports.

490. Special Problems (3) S Faculty
Prerequisites: Six units of upper division philosophy courses. Exploration of special and significant philosophical problems. May be repeated for a maximum of six units.

499. Directed Studies (1-2) F, S Faculty
Prerequisite: Consent of instructor. Independent study of special topics under supervision of a faculty member. May be repeated to a maximum of six units.

Graduate Division

571. Problems in Logic (3)

572. Problems in Theory of Value (3)

620. Seminar in History of Philosophy (3)

630. Seminar in Philosophy of Religion (3)

640. Seminar in Metaphysics (3)

663. Seminar in Ethics (3)

680. Seminar in Epistemology (3)

681. Seminar in the Philosophy of Science (3)

690. Seminar in Selected Topics of Current Interest (3)

697. Directed Research (1-2)

698. Thesis (2-4)

Radio-Television

Department Chair: Dr. Robert G. Finney.
Professors: Baker, Finney, Martin, Morehead.
Associate Professor: Langston.
Assistant Professor: McMillan.
Academic Advising Coordinator: Dr. Robert G. Finney.

The curriculum and extra-curriculum in radio and television are designed to prepare students for careers in commercial and non-commercial educational broadcasting, as well as for allied careers in film, broadcast journalism and other aspects of the graphic and performing arts in mass communications. A strong emphasis on general education in the liberal arts and sciences provides the major with experiences that develop enlightened expertise in a profession in the mass media.

University Radio Station KSUL-FM

See Student Affairs Division for description.

Radio-Television Professional Advisory Council

The responsibilities of the Professional Advisory Council to the Radio-Television Department are to evaluate the curriculum of the department and to suggest changes in policies, course content and curricular structure to make the students' education more relevant to the profession as a whole. Membership of the Advisory Council is as follows:

Chris Beard, Producer, Blye-Beard Productions
Ron Butler, Audio-Visual Specialist, Nissan Motors Corp.
William Emerson, Director, Broadcast Standards, NBC Television Center
Maury Green, News and Public Affairs Broadcaster
Don Hall, Producer, KNXT-TV
Ida Honoroff, Producer, Radio Station KPFK
Rose Kemp, President, American Women in Radio and Television
Ron Mardigian, Literary Agent, William Morris Agency
Doyle Nave, Business Representative, International Photographers Local 659, I.A.T.S.E. and M.P.M.O.

Stanley Robertson, Vice-President, Film Programs, NBC Television Center

Jay Sandrich, Television Director

Ron Stein, Director of Programming, Theta Cable Television

Clayton L. Stouffer, President, Viewer Sponsored Television Foundation (Channel 68)

Jane Thompson, Senior Media Buyer, Foote, Cone and Belding Advertising Agency

Barret Wetherby, Assistant Executive Secretary, Directors Guild of America

Major in Radio-Television for the Bachelor of Arts Degree (code 2-6846)

Lower Division: Radio-TV 207, 208, 210.

Upper Division: A minimum of 29 units which must include Radio-TV 300, 406 and 416. The 29 units shall also include a minimum of nine units to a maximum of 15 units of the following production courses: Radio-TV 301, 302, 306, 307, 308, 309 and 410. (Radio-TV 309 may be repeated for credit once with consent of instructor but only three units of Radio-TV 309 may be credited toward fulfilling upper division requirements.)

The student is advised to elect at least 18 units in one of the following: business administration, creative writing, instructional media, journalism, social-behavioral sciences, speech, theatre arts and fine arts.

Lower Division

100. Popular Arts in America (3) F, S Faculty
Survey of the popular arts, leading to an increased appreciation and understanding of the part played by the popular arts in American life. Films, videotapes, popular music recordings are used to exemplify the conventions and themes of our popular culture. Not open to students with credit in American Studies 100.

207. Radio Production (2) F, S Faculty
Basic principles and techniques of studio operation, performing, writing and producing for radio. (Laboratory included.)

208. Television Production (2) F, S Faculty
Prerequisite: Radio-TV 207 or consent of instructor. Basic principles of planning, writing and producing television programs. (Laboratory included.)

210. Film Production (3) F Faculty
Beginning techniques in motion picture production including use of the camera, picture composition, planning sequences, splicing and cutting films. (Students will furnish their own raw film stock and pay for its processing. Students will be working with 8 mm and Super-8 mm equipment and materials.) (Laboratory included.)

Upper Division

300. History of Broadcasting (3) F, S Finney, Martin, Morehead
Development of broadcasting in America.

301. Television Production (3) F, S Faculty
Prerequisite: Radio-TV 208 or consent of instructor. Experience in producing original television programs. Emphasis is on creative programming using a variety of production techniques, resulting in a public performance.

302. Television Activity (1) F, S Baker
Prerequisite: Radio-TV 208 or consent of instructor. Individual and group participation in closed circuit, instructional TV program produced as a function of the Instructional Television Office. Specific assignments determined in consultation with instructor. Hours other than regular class time to be arranged. Not more than one unit may be taken in any one semester. Maximum credit, 2 units.

303. The Documentary: Critics and Persuaders (3) F Faculty
An historical and critical study of the best documentaries on film, radio and television. Direct experience with the form through seeing and hearing a wide cross-section of internationally acclaimed documentaries. Topics will include the documentary as a vital force in education, journalism and industry, with emphasis on its creative use as an instrument of social criticism and enlightenment.

304. Writing for Broadcasting and Motion Pictures (3) F, S McMillan
Nondramatic and dramatic writing for broadcasting and motion pictures. Student scripts and copy will be produced when possible.

306. Television Directing (3) F, S Martin
Prerequisite: Radio-TV 208 or consent of instructor. TV director's responsibilities for casting, scenery, performance, camera choices, shot sequences and microphone technique in creating the TV production. Student video-taped productions will be shown publicly.

307. Radio Activity (1) F, S Faculty
Prerequisite: Radio-TV 207 or consent of instructor. Participation in radio production; hours other than regular class time will be arranged. Maximum credit, two units.

308. Documentary Program Production (3) F Faculty
Prerequisite: Radio-TV 208 or 210 and consent of instructor. History, theory and practice of documentary programming. Students will plan, research, write and produce either a videotape or 16 mm film documentary to professional standards. Material costs are expected to be approximately $200 per student.

309. Radio Production (3) F, S McMillan
Prerequisite: Radio-TV 207 or consent of instructor. Planning and producing original programs for the University radio station, KSUL-FM. Experience in radio station operations. (May be repeated for credit to a maximum of six units with consent of instructor. Only three units may be credited toward fulfilling upper division major requirements.)

310. Television and Radio Public Affairs (3) F Faculty
History, theory and practice of public affairs broadcasting. Study of interview, forum and special events programs.

311. Advertising and the Electronic Media (3) S McMillan
Theory, role, regulation and procedures of advertising in the electronic media. Study of legal, ethical, commercial and creative principles which the student demonstrates knowledge of by designing advertising strategy, campaigns and scripts.

314. Theatrical Film Symposium (1-3) F, S Faculty
Lectures and discussions of creative problems in the motion picture industry; current films; interviews with visiting producers, directors, writers, performers and technicians. May be repeated once. A small fee is assessed for this course.

400. Educational Television (3) S Faculty
Development of educational television in America. Intensive study of research literature in the field. Current practices in usage of television in the classroom. Demonstrations.

401. Regulation and Management (4) S Finney
Regulation, organization and administration of radio and television stations and allied electronic business. Study of management of objectives and procedures from organizational and administrative viewpoints with special emphasis on responsibilities as prescribed by legislative and judicial bodies. Includes such regulatory areas as news, programming, sales, engineering and monopoly.

403. Industrial Media (3) S Langston
Background, development and varied uses of television and film in industry. Diverse applications of those media, from training to internal communication. Examples of industrial films and tapes. Field trips to industrial media production facilities.

406. Mass Media and Society (3) F, S Finney, Martin, Morehead
History and impact of the press, broadcasting and motion pictures on American society. Dimensions, social responsibilities and unresolved problems of mass media.

407. Children's TV Programming (3) F Faculty
Survey of theories and production techniques of children's programming. Special problems confronting creative and production staffs. Impact of children's programming; production considerations; program proposal design; scripting; puppetry; animation and live action.

410. Techniques of Motion Picture Production (3) S Faculty
Prerequisite: Radio-TV 210 or consent of instructor. Planning and producing original film, resulting in a public performance. Materials costs are expected to be approximately $200 per student. (Students will furnish their own raw film stock and pay for its processing.)

416. Film History (3) S Faculty
Historical development of the motion picture, with special emphasis on early invention, the development of technique, the "Golden Age" of the silent film and the present evolution of the sound film. Students are required to spend three hours each week reviewing film. (Lecture 3 hours, reviewing film 3 hours.)

418. Film Criticism (3) F Faculty
Examination of theoretical bases of aesthetics and applications to motion pictures. Study of various critical approaches and assessment of current trends and practices. Students are required to spend three hours each week reviewing film. (Lecture 3 hours, reviewing film 3 hours.)

450. Women in Mass Media (3) F Faculty
Radio and television programs, films, advertising, the press and the popular music industry are among media analyzed to understand the image of women in electronic and print outlets and the status of their employment therein. Studies the social effects of image and fantasy as portrayed in media.

490. Special Topics in Radio-Television (1-3) F, S Faculty
Prerequisite: Consent of instructor. Topics of current interest in radio-television selected for intensive development. May be repeated for a maximum of six units. Topics will be announced in the *Schedule of Classes.*

491. Internship (3) F, S Faculty
Prerequisite: Consent of instructor. At least 120 hours with cooperating broadcast and motion picture firms. Work to be directed and evaluated by supervisors of the participating media facilities. One classroom meeting per week. Assignments will be varied, may include both production and non-production duties. Open to senior majors of the department only.

499. Special Projects in Television, Radio and Film (3) F, S Faculty
Prerequisite: Consent of instructor. Research into an area of special interest to the student, culminating in a research paper or production. Productions will be limited by equipment and facilities available during any term.

Religious Studies

Director: Dr. Alexander Lipski.

Professor: Lipski.

Associate Professor: Eisenman.

Assistant Professors: Battaglia, Broughton.

Academic Advising Coordinator: Dr. Alexander Lipski.

The program in Religious Studies is designed to provide students with the necessary background required for a critical understanding of the forms and traditions of religion that have appeared in and characterize human culture. The program approaches objectively all religious phenomena by providing students with an introduction to the major world religions, and the methodology, literature and history of religions. Courses deal with religion in the modern world and in man's culture.

Students interested in the program in Religious Studies should apply to the Director, Religious Studies Program, HOB-619.

Major in Religious Studies for the Bachelor of Arts Degree (code 2-6011)

The following core courses are required of all majors:

Lower Division: Religious Studies 152, 211, 291.

Upper Division: Religious Studies 301, Philosophy 330.

Fifteen additional upper division units from three of the following five categories: (a) *Jewish Studies:* Religious Studies 311, 312, 314, 315, 490*, 495*; (b) *Christian Studies:* Religious Studies 312, 322, 324, 471, 472, 490*, 494*, 495*; (c) *Asian Studies:* Religious Studies 341, 343, 344, 351, 481, 490*, 494*, 495*; (d) *Biblical Studies:* Religious Studies 311, 312, 322, 490*, 494*, 495*; (e) *Contemporary Religious Studies:* Religious Studies 396*, 403, 481, 485, 490*, 494*, 495*. Six additional units are to be selected from either religious studies courses, or American Indian Studies 335, Comparative Literature 342, English 465, Philosophy 306, 307, 313, 403, 442. Six to eight units of Hebrew, Greek or Sanskrit may be substituted.

*When subject matter of special topics course is applicable, the course may be used.

Minor in Religious Studies (code 0-6011)

Requirements for the Minor in Religious Studies

A minimum of 21 units in religious studies courses or courses from other departments approved by the Religious Studies Committee.

Lower Division: A minimum of six units selected from Religious Studies 100, 111, 152, 291.

Upper Division: A minimum of 15 units including three units from each of the following groups: (a) Western Religious Thought: Religious Studies 311, 312, 314, 315, 322, 331, 471, 472, 485; (b) Eastern Religious Thought: Religious Studies 341, 343, 344, 351, 481. Remaining units are to be selected from Religious Studies courses and the following electives: American Indian Studies 335, Anthropology 406, Asian American Studies 380, Black Studies 353, Comparative Literature 342, English 465, History 333, Philosophy 313, 330, 403.

Requirements for the Certificate in Religious Studies:

1. A bachelor's degree with a major in a traditional discipline.
2. A minimum of 30 units in religious studies or courses offered in other departments approved by the Religious Studies Committee.

Lower Division: A minimum of nine units including Religious Studies 111, 152, 100 or 291.

Upper Division: A minimum of 21 units including one course from each of the following: (a) Biblical Studies: Religious Studies 311, 312, 322; (b) Western Religious Thought: Religious Studies 314, 315, 331, 471, 472, 485; (c) Eastern Religious Thought: Religious Studies 341, 343, 344, 351, 481. A minimum of nine units from the preceding courses and the following electives: Religious Studies 393, 396, 482, 490, 494, 495, 499; American Indian Studies 335; Anthropology 406; Asian American Studies 380; Black Studies 353; Comparative Literature 342; English 465; History 333; Philosophy 313, 330, 403.

Lower Division

100. Introduction to Religion (3) F, S Faculty
Origin, nature, and function of religion in the individual and culture with emphasis upon and reference to outstanding personalities, sacred writings, and basic features of the world's leading religions.

110. Life and Death in Eastern and Western Philosophy (3) F Lipski, Peccorini
Exploration of the evolution of ideas on life and death through the ages, as expressed in eastern and western philosophy. Same course as Philosophy 110.

152. Introduction to Asian Religions (3) F, S Broughton
A survey of Brahmanism, Buddhism, Classical Chinese religious thought and Japanese religion. Emphasis will be on original texts. Not open to students with credit in Philosophy 331.

211. Judaism, Christianity and Islam (3) F, S Faculty
A survey of representative figures, themes and schools in western religious thought. Not open to students with credit in Philosophy 331 or Religious Studies 111.

291. Religion and Society (3) F, S Battaglia
Religious and secular views of man in relation to society with emphasis upon contemporary problems of personal and social ethics, political responsibility and social structure.

Upper Division

301. Methodology in Religious Studies (3) S Faculty
Study of the methodology of religious studies, including the history of religions, comparative and phenomenological study of religions, textual criticism, exegesis, research methods and techniques.

311. Literature and Religion of the Old Testament (3) F Eisenman
The Old Testament as a religious, historical and literary document with emphasis on the religion and culture of the early Hebrews. Selected books will be read each term, but prime emphasis will be put on Genesis, Exodus, the early prophets, Isaiah. The period of the conquest and the divided monarchies will be studied.

312. The Dead Sea Scrolls, Jewish State and Primitive Christianity (3) S Eisenman
Historical development of Jewish religion and culture in the Second Temple period from the rise of the Maccabbees to the beginnings of Christianity with emphasis on the rise of the Jewish State, the coming of the Romans and the beginnings of primitive Christianity (Essenism, Phariseeism and Sadduceeism).

314. History of the Jewish Religion (3) F Eisenman
From the end of the Second Temple period to the close of the Middle Ages. Development from Hellenistic Judaism to Rabbinic Judaism to philosophical theology will be gone into in some detail. Readings from Saadya, Halevi and Maimonides, etc.

315. History of Zionism (3) F Eisenman
The course will deal with the development of Jewish thought from the enlightenment and emancipation from the ghettoes, through attempts at assimilation, the Holocaust and the birth of the Jewish State. The development of conservative, reform and orthodox Judaism will also be discussed.

322. Literature and Religion of the New Testament (3) S Battaglia, Eisenman
The emergent Christian community, seen through the missionary and pastoral letters, the snyoptic gospels, the radical theologies of Paul and John and the dramatic visions of the Apocalypse.

324. Varieties of Christianity (3) F Battaglia
Introduction to the common doctrines of Christianity, with special attention to the causes of the division of Christianity into many churches. Similarities and dissimilarities in the doctrine and practice will be discussed in terms of present day Christianity.

331. Koran and Islamic Civilization (3) S Eisenman
The Koran, Muhammad and the rise of Islam as a cosmopolitan faith. The development of Muslim civilization, including literature, theology, philosophy and Sufism (mysticism).

341. Buddhism (3) S Broughton
The Buddha; early Buddhism; the great vehicle; and the vehicle of incantations. The transmission of Buddhism to China, Korea, Japan, Southeast Asia and Tibet. Emphasis will be on original texts in translations.

343. Religions of China (3) F Broughton
The Analects of Confucius; the Lao Tau and Chuang Tzu; Han thought and New-Taoism; the penetration of Indian Buddhism; and the New-Confucian synthesis. Emphasis will be on original texts in translations.

344. Religions of Japan (3) S Broughton
The transmission of continental civilization to Japan; early Shinto; Nara, Heian, Kamakura and Muromachi Buddhism; and Tokugawa Neo-Confucianism. Emphasis will be on original texts in translations.

351. Hinduism (3) F Lipski
Survey of ancient, classical and medieval Hinduism. Emphasis on analysis of Upanishads, Bhagavad Gita and the various paths of yoga.

396. Religion and Humanities (3) S Faculty
Examination of the religious dimensions of man's existence as these are expressed in the humanities, including literature, music and the fine arts. May be repeated up to a maximum of six units. Topics will vary.

403. Twentieth Century Idealists (3) F Lipski
Lives, thoughts and activities of significant twentieth century proponents of non-materialistic world views, including Jung, Merton, Gandhi, Toynbee and Tagore. Their impact upon contemporary society and their cross-cultural influences will be emphasized. Same course as History 403.

471. Ancient and Medieval Christianity (3) F Abrahamse
Christianity's struggle to self-understanding, from New Testament times through the crucible of the middle ages to the golden age of the Renaissance.

472. History of Modern Christianity (3) S Battaglia
Restructuring and renewal of Christianity, from the Reformation through the dawn of modern consciousness to the challenge of 20th century secular life.

481. Modern Hindu Religious Thought (3) S Lipski
Western impact on traditional Hinduism. Renascent Hinduism. Worldwide significance of contemporary Hindu thought. (Same course as History 481 and taught by History Department.)

482. History of Religions in the United States (3) F, S Berk
Survey of major themes in the unique American religious experience. Topics of significance will include the adaptation of European Christianity to novel American circumstances, the proliferation of denominations and the varied religious response to a dynamic American society. (Same course as History 482 and taught by History Department.)

485. Contemporary Religious Thought (3) F Faculty
Critical examination of the current trends in religious understanding against a background of rapid social change. New movements and issues on the religious scene will be considered and a variety of authors representing both East and West will be studied in order to reveal the emerging patterns of religious thought.

490. Special Topics in Religious Studies (1-3) F, S Faculty
Topics of current interest in religious studies selected for intensive development. May be repeated up to nine units with different topics. Topics will be announced in the *Schedule of Classes*.

494. Religious Classics (3) F, S Faculty
Examination of selected religious classics including an analysis of religious themes in significant works of world literature. Specific works will vary. The course may be repeated for credit up to nine units with different topics.

495. The Religious Personality (3) F, S Faculty
Prerequisites: Three units of religious studies or consent of instructor. Study of the cultural influence and personal characteristics of religious men as reflected in their writings. Selection of personalities will vary. May be repeated for credit up to nine units with different topics.

499. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Directed studies to permit individual students to pursue topics of special research interest. May be repeated up to a total of six units.

Spanish-Portuguese

Department Chair: Dr. Daniel Cárdenas.
Professors: Cárdenas, DeLong-Tonelli, Donahue, Inostroza, Marín, Trinidad.
Associate Professors: Archuleta, Cannon.
Assistant Professor: Schmitt.
Credential Advisers: Dr. Alfonso Archuleta, Dr. Harold L. Cannon.
Academic Advising Coordinator: Dr. Daniel Cárdenas.

The Department of Spanish and Portuguese offers courses in language, literature and culture leading to the following degree and certificate programs: bachelor of arts degree in Spanish, master of arts degree in Spanish, single-subject teaching credential in Spanish, concentration in Spanish for the B.A. in liberal studies and the special major for the B.A. degree.

The department also offers courses which may be used to partially fulfill requirements for the bilingual cross-cultural specialist credential, master of arts degree in linguistics and Latin American studies certificate. The program is also designed to meet the needs of those who plan to enter business, community or government employment where knowledge of Spanish and/or Portuguese is essential. In addition, the program provides a liberal education for those who wish to expand their awareness of the communication process and of Hispanic literatures and culture. For certificate programs, see department brochure.

Major in Spanish for the Bachelor of Arts Degree (code 2-6816)

Lower Division: One year of intermediate Spanish. Students who have completed sufficient high school Spanish may take upper division courses as soon as lower division requirements have been met.

Upper Division: A minimum of 30 units of upper division courses, which must include Spanish 312, 313, 335, 336, 337, 338, 425. Courses 440 and 445 are required for teacher certification and may be taken while completing work toward the baccalaureate degree. The department also strongly recommends 410.

Departmental Requirements: One year of a second foreign language is required of all majors.

Minor in Spanish (code 0-6816)

A minimum of 18 units, at least 15 of which must be upper division and must include Spanish 312, 313, and demonstration of oral fluency or 314. All students who plan to minor in Spanish should consult with the department.

Master of Arts Degree in Spanish

A program of study leading to the master of arts degree in Spanish is offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Spanish

Lower Division

101A-B. Fundamentals of Spanish (4,4) F,S Faculty
Concentration on oral comprehension and speaking.
101A. For those who are beginning the study of Spanish or who have had less than two years of high school Spanish.
101B. Prerequisite: Spanish 101A or two years of high school Spanish. Continuation of Spanish 101A.

201A-B. Intermediate Spanish (4,4) F, S Faculty
Continued development of audio-lingual skills.
201A. Prerequisites: Spanish 101A-B or three years of high school Spanish or equivalent.
201B. Prerequisite: Spanish 201A or four years of high school Spanish or equivalent.

Upper Division

300. Hispanic Literature in Translation (2) On demand Faculty
Study of a specific author, generation, genre or work, to be announced each semester in the *Schedule of Classes*. Such topics as the following may be offered: Federico Garcia Lorca; the Latin American new novel, Unamuno, Ortega y Gasset, *Don Quixote*. May be repeated with different topics for a maximum of six units. Not applicable to 30 units of upper division work required for the B.A. in Spanish nor the minor in Spanish.

301. Spanish for Classroom Teachers (6) SS Faculty
Fundamentals of spoken Spanish and Hispanic culture in a "total immersion" audio-lingual setting; designed for teachers in districts with a high percentage of Spanish-speaking students. May be repeated once for credit. Applicability to degree and certificate programs very limited. Confer with department chair.

312. Advanced Spanish I (3) F, S Faculty
Prerequisite: Spanish 201B or equivalent. Extensive reading of Spanish writings, review of grammatical principles and a general consolidation of the four language skills: reading, comprehension, composition and conversation.

313. Advanced Spanish II (3) F, S Faculty
Prerequisite: Spanish 312 or equivalent. Sequel to Spanish 312, with continuing emphasis on extensive reading of Spanish texts and periodicals, regular composition work based on these readings, and the development of increased mastery of the spoken language through student discussion of the readings.

314. Spanish Conversation (1) F, S Faculty
Prerequisite: Upper division standing in Spanish. Functional course in conversation. Intended to meet specific, everyday situations and to provide help to those who intend to speak Spanish in travel, work or classroom instruction. (Activity 3 hours.)

327. Cultural Aspects of Spanish and English (2) S Cárdenas, DeLong-Tonelli, Trinidad
Prerequisite: Spanish 201A or equivalent. Taught in English. Comparison of colloquial speech (idioms, refrains, proverbs, common comparisons) and formulaic expression (correspondence; telephone, classroom and interview behavior) in the two languages.

335. Introduction to Spanish Literature I (3) F, S Cárdenas, DeLong-Tonelli, Marín, Trinidad
Prerequisite: Upper division standing in Spanish. Origins and development of Spain's literature from the "Poem of Mio Cid" to 1700.

336. Introduction to Spanish Literature II (3) F, S Cannon, Cárdenas, DeLong-Tonelli, Marín, Trinidad
Prerequisite: Upper division standing in Spanish. From 1700 to the present time.

337. Introduction to Spanish American Literature I (3) F, S Archuleta, Donahue, Inostroza, Schmitt
Prerequisite: Upper division standing in Spanish. Survey of the outstanding chronicles of the Conquest and the influence of Spanish culture in the formation of the New World. Covers the period of the colonization of Latin America and its struggle for independence.

338. Introduction to Spanish American Literature II (3) F, S Archuleta, Donahue, Inostroza, Schmitt
Prerequisite: Upper division standing in Spanish. From the ending of the wars of independence to the present time.

410. Introduction to Literary Analysis (3) S Cárdenas, DeLong-Tonelli, Inostroza
Prerequisite: One 300 level course in Spanish or consent of instructor. Discovery of literature as a work of art. Different levels of interpretation; complexity of structure related to content; literary appreciation.

411. Advanced Spanish Composition (3) F Faculty
Prerequisites: Spanish 312, 313. Intensive practice in composition using present-day Spanish.

425. Spanish Phonetics and Phonology (3) F, S Cárdenas, Trinidad
Prerequisites: Spanish 312 and 313 or consent of instructor. Articulatory phonetics as a means to form native Spanish pronunciation habits with emphasis upon the difficulties encountered by speakers of American English.

426. Spanish Morphology and Syntax (3) F Cárdenas, Trinidad
Prerequisite: Spanish 425 or consent of instructor. Morphemic and syntagmatic analysis of Spanish; introduction to transformational grammar.

427. Contrastive Analysis of Spanish and English (3) S Cárdenas, Trinidad
Prerequisite: Spanish 426 or consent of instructor. Study of the scientifically and empirically known points of conflict and differences between the two languages.

440. Spanish Civilization (3) S Marín, Trinidad
Prerequisite: Upper division standing in Spanish or consent of instructor. Characteristic features of Spanish culture with special attention to the various institutions, economy, social organization, cultural configurations, and the ways of thinking.

445. Latin American Civilization (3) F Archuleta, Donahue
Prerequisite: Upper division standing in Spanish or consent of instructor. Analysis of main currents in Latin American civilization.

450. Spanish American Novel I (3) F Archuleta, Inostroza
Prerequisite: Spanish 338 or consent of instructor. Study of the Spanish American novel from its origin to 1930. Not open to students with credit in Spanish 455.

451. Spanish American Novel II (3) S Archuleta, Inostroza
Prerequisite: Spanish 338 or consent of instructor. Study of the Spanish American novel from 1930 to the present. Not open to students with credit in Spanish 455.

454. Modern Spanish Theatre (3) F DeLong-Tonelli, Donahue, Trinidad
Prerequisite: Spanish 336 or consent of instructor. Spanish theatre from Benavente to the present.

456. Nineteenth Century Spanish Novel (3) F Cannon, Donahue, Trinidad
Prerequisite: Spanish 336 or consent of instructor. Ranking nineteeth century Spanish novelists.

457A. Spanish American Short Story (3) S Donahue
Prerequisite: Spanish 338 or consent of instructor.

457B. Spanish American Essay (3) S Inostroza
Prerequisite: Spanish 338 or consent of instructor.

458. The Modern Spanish Essay (3) F DeLong-Tonelli, Trinidad
Prerequisite: Spanish 336 or consent of instructor. Reading and discussion of the essays of writers such as Azorín, Unamuno, Ortega y Gasset and Angel Ganivet.

459. Twentieth Century Spanish Novel (3) S DeLong-Tonelli, Donahue, Trinidad
Prerequisite: Spanish 336 or consent of instructor. Representative twentieth century novelists.

474. The Drama of the Golden Century (3) F, odd years Marín
Prerequisite: Spanish 335 or consent of instructor. Spanish drama from Juan del Encina to Calderón de la Barca.

499. Independent Study (1-3) F, S Faculty
Prerequisites: Consent of instructor and department chairperson. Individual projects or directed readings with a professor of the student's choice. May be repeated to a maximum of six units.

Graduate Division

505. History of the Spanish Language (3)

515. Romance Linguistics (3)

520. Modernismo in Spanish American Literature (3)

521. Contemporary Spanish American Poetry (3)

535. Spanish Medieval Literature (3)

538. Spanish Poetry of the Golden Age (3)

540. Spanish American Drama (3)

555. Mexican Novel (3)

585. Contemporary Spanish Poetry (3)

639. Seminar in Hispanic Studies (3)

696. Bibliographical Methods of Research (3)

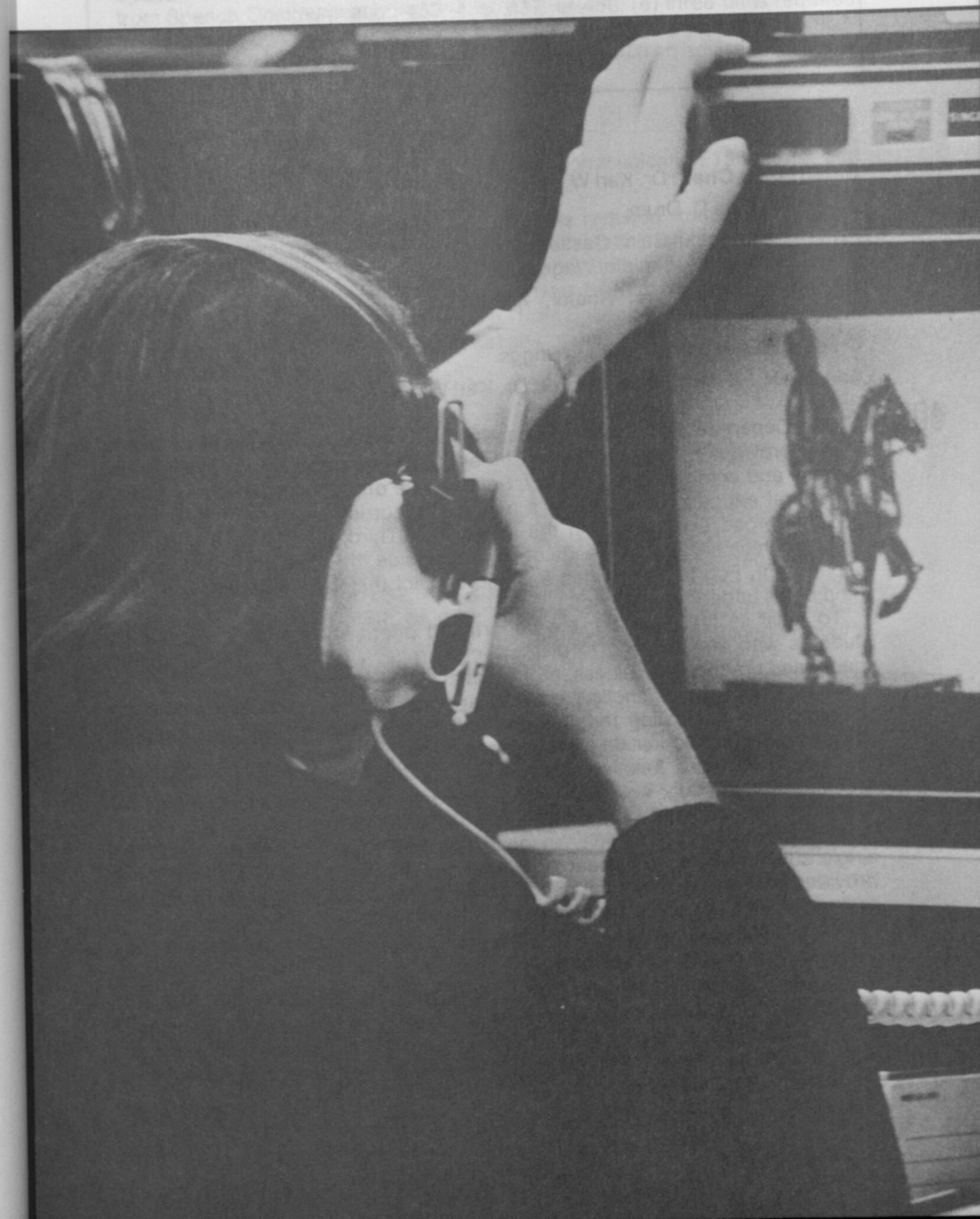
697. Directed Research (1-3)

698. Thesis (2-4)

Portuguese

Lower Division

101A-B. Fundamentals of Portuguese (4,4) F, S Archuleta, Schmitt
Introduction to grammar, reading, pronunciation, writing and conversation. 101A is for those who are beginning the study of Portuguese or who have had less than two years of high school Portuguese.
101B. Prerequisite: Portuguese 101A or two years of high school Portuguese. Continuation of 101A.



Speech Communication

Department Chair: Dr. Karl W.E. Anatol.

Emeritus: Dale D. Drum.

Professors: Buck, Cain, Castleberry, Hauth, Hays, Howe, Jenson, Loganbill, Powell, Shanks, Skriletz, Wagner, Wills.

Associate Professors: Anatol, Applbaum, Briggs, Healy, Porter, Rogers, Yousef.

Credential Adviser: Dr. Nancy Briggs.

Academic Advising Coordinator: Dr. Karl W.E. Anatol.

The Department of Speech Communication serves four general functions. First, it provides a program for the student planning a career in rhetoric-public address and communication theory. Second, the department provides a variety of general education courses as a part of the curriculum designed to give all students broad experiences in the liberal arts. Third, it provides a number of courses which service the needs of majors outside the Speech Communication Department. Fourth, it provides a single subject major for teaching credential candidates under the Ryan Act.

To fulfill its first function, the department offers specialized curriculum to students who are planning to utilize a comprehensive background of speech theory and practice in business, professional fields, or education.

To fulfill its second function, courses are offered to satisfy both the category IV Basic Communication requirement in general education and the need for additional general education electives for cultural enrichment.

To fulfill its third function, courses are offered which meet the needs of students whose major courses of study are enriched by specialized instruction in speech communication.

To fulfill its fourth function, an option is presented for students wishing a single subject major for a teaching credential under the Ryan Act. This option provides both a B.A. major in speech communication and an English credential for teaching in the secondary schools.

Speech Proficiency Assessment

Students enrolled in Speech Communication 271, 331, 333, 335, 352, 355 and 358 at CSULB will be tested for speech proficiency as part of the course. All others seeking a teaching credential must arrange for an assessment for speech proficiency through the Testing Office. Assessment information is published in the *Schedule of Classes*.

Major in Speech Communication for the Bachelor of Arts Degree

General Speech Option (code 2-6841)

Lower Division: Six units required from Speech Communication 130 and 246 or 271.

Upper Division: (a) Departmental Core, 12 units required from: Speech Communication 435, 440, 446 and 448; (b) six units required from Speech Communication 331, 332, 333, 335, 338, or 344; (c) six units required from Speech Communication 432, 434, 447, 449 or 451; (d) six units required from Speech Communication 433, 436, 437, or 450; (e) three units required from Speech Communication 490 or any upper division speech communication course excluding 499, selected in consultation with an adviser.

Communication Theory Option (code 2-6839)

Lower Division: Six units required from Speech Communication 130 or 132 and 246.

Upper Division: (a) Departmental Core, 12 units required from Speech Communication 435, 440, 446 and 448; (b) six units required from Speech Communication 332, 334, 335 or 344; (c) 12 units required from Speech Communication 447 (required), nine units from Speech Communication 432, 434, 449 or 451; (d) three units required from Speech Communication 490 or any upper division speech communication course, excluding 499, selected in consultation with an adviser.

Rhetorical Studies Option (code 2-6840)

Lower Division: Six units required from Speech Communication 130, 131 or 133 and 246 or 271.

Upper Division: (a) Departmental Core, 12 units required from Speech Communication 435, 440, 446, 448; (b) six units required from Speech Communication 331, 332, 333, 335 or 338; (c) six units required from Speech Communication 433, 436, 437; (d) three units required from Speech Communication 449, 450, or 490; (e) three units required from Speech Communication 490 or any upper division speech communication course excluding 499, selected in consultation with an adviser.

Teaching Option (code 2-6849)

Lower Division: Speech Communication 246 or 271.

Upper Division: (a) Nine units chosen from Speech Communication 331, 332, 333 and 335; (b) three units chosen from Speech Communication 435, 436, 440; (c) three units chosen from Speech Communication 446, 448, 449; (d) three units from Speech Communication 450; (e) three units from English 184; (f) three courses from English 250A, 250B, 370A, 370B; (g) three units from English 310; (h) four units from English 320, 325; (i) three units from Comparative Literature 232 or English 482; (j) three units from Speech Communication 355.

Minor in Speech Communication (code 0-6841)

A minimum of 21 units in speech communication, of which at least 15 must be upper division, chosen in consultation with a faculty member of the department.

Master of Arts Degree in Speech Communication

A program of study leading to the master of arts degree in speech communication is offered. For detailed information concerning requirements see the *Graduate Bulletin.*

Lower Division

130. Essentials of Public Speaking (3) F, S Faculty
Composition and delivery of speeches to inform and persuade. Logical organization is stressed.

131. Essentials of Argumentation (3) F, S Faculty
Theory and practice of argumentation. Includes evidence, proof, refutation in argumentative speaking and evaluative techniques.

132. Elements of Group Discussion (3) F, S Faculty
Basic principles and techniques of discussion. Survey of the importance of discussion in contemporary society, including a study of and practice in informal group discussion, panel discussion, symposium and forum.

133. Elements of Oral Interpretation (3) F, S Faculty
Theory and practice in the oral interpretation of prose and poetry.

200. Nonverbal Correlates of Oral Communication (3) F, S Hays
Basic characteristics of the nonverbal elements of human communication in the oral communication setting. (Lecture-discussion 3 hours.)

236. Forensic Activity (1) F, S Howe
Prerequisite: Consent of instructor. Participation in intercollegiate forensic activities. Any student who expects to participate in such activities during the semester should enroll. The student's specific assignments will be determined in consultation with the staff. Maximum credit, four units.

246. Interpersonal Communication (3) F, S Hays
Basic characteristics of human communication and the theoretical and practical implications of these characteristics for various forms of oral communication.

271. Voice and Articulation (3) F, S Hauth, Healy, Loganbill, Wills
Physiological and anatomical bases of normal voice production with intensive training in articulation, pronunciation, projection and related oral skills.

Upper Division

303. Communication for Accounting and Finance (3) F, S Faculty
Prerequisites: English 100 or equivalent; Speech Communication 130 or 132 or 246 or equivalent; upper division standing; open only to accounting and finance majors. Oral and written communication principles and practice in the accounting and finance professions.

331. Argumentation and Debate (3) F, S Howe, Rogers
Prerequisites: Speech 130, 131, 132 or 133. Techniques of argumentation and their application to debate; logic, reasoning and fallacies of reasoning; experience in various forms of formal argument and debate; techniques of debate program administration.

332. Advanced Group Discussion (3) F, S Anatol, Applbaum, Rogers, Wills
Prerequisites: Speech 130, 131, 132 or 133. Relationship of discussion to the democratic process. Critical thinking and the role of leadership in the group process.

333. Advanced Oral Interpretation (3) F, S Buck, Loganbill, Shanks
Prerequisites: Speech 130, 131, 132 or 133. Derivation of meaning in various literary forms and its oral interpretation to specific audiences.

334. Business and Professional Speech (3) F, S Healy
Application of principles of speech in basic business, industrial and professional forms and contexts; techniques of preparation, presentation and evaluation.

335. Persuasive Speaking (3) F, S Faculty
Audience behavior; theories of motivation, attention, interest; an understanding and analysis of types of audiences with methods of audience adaptation.

336. Forensic Activity (1) F, S Howe
Prerequisite: Consent of instructor. Participation in intercollegiate forensic activities. Any student who expects to participate in such activities during the semester should enroll. Student's specific assignments will be determined in consultation with the staff. Maximum credit, four units.

337. Conference Management (3) F, S Castleberry, Shanks
Organization and direction of professional, business and political conferences or conventions; program simulation; leadership of and participation in decision making and parliamentary sessions.

338. Ensemble Interpretive Reading (3) S Buck, Loganbill, Shanks
Programming and presentation of prose, poetry and drama by an ensemble of readers. Emphasis is placed on experimental presentations and on the development of analytical insight into literary forms.

344. Theory and Techniques of Interviewing (3) F, S Briggs, Hays, Jenson, Rogers, Skrletz, Yousef
Theory and techniques of oral communication in the process of interviewing. Practical application in employment, information gathering and persuasive interviews.

346. Group Facilitation in Speech Communication (3) F, S Hays
Prerequisite: Consent of instructor. The theory and practice of group facilitation. Includes supervised experience in group facilitation. (Lecture 1 hour, activity 4 hours.)

352. Story Telling (3) F, S Faculty
Cultural heritage in story telling; analysis of story types for oral presentation; techniques of preparation, presentation and listening.

355. Forms of Speech Communication (3) F, S Hauth, Skrletz
Principles of human and interpersonal communication in public speaking, oral reading, group discussion and their application to the classroom. Fulfills the oral communication requirement for the English Secondary Education credential.

358. Speech Arts for Children (3) F, S Briggs, Wills
Use of creative dramatics, improvisations, puppetry, choral speech, radio, television and group discussion for the purpose of developing fluency, responsiveness and imagination in children. Integration of speech arts activities with curricular subjects will be stressed. Opportunity to apply the theories in actual situations. (Lecture-discussion 2 hours, laboratory 2 hours.)

432. Discussion Leadership (3) F, S Anatol, Applbaum
Prerequisite: Speech 132 or consent of instructor. Theories and types of leadership on conference and small group discussion. (Lecture 3 hours, laboratory 1 hour.)

433. Trends in Oral Interpretation (3) F Loganbill
Trends and issues in the theoretical and historical development of oral interpretation as applied to current times.

434. Communication in the Organizational Setting (3) F, S Anatol, Hays, Jenson, Yousef
Communication problems in the organizational settings. Selected topics in organizational difficulties with communication problems.

435. Critical Dimensions of Oral Communication (3) F Cain, Hauth, Powell
An analysis and evaluation of oral communication: investigation into examples of American political, religious, social and commercial messages. Not open to students with credit in Speech Communication 439.

436. Communication Strategies of American Speakers (3) F Hauth, Powell, Rogers
Study of trends and issues in American public speaking, including the growth of civil rights, confrontation politics, historical women's liberation and other protest movements.

437. Communication Strategies of European Speakers (3) F Briggs, Buck, Castleberry, Howe, Wills
Comparison and contrast of famous European speakers, techniques, effects and environments from Demosthenes and Cicero to Churchill and Hitler.

440. Survey of Rhetorical Theory (3) F, S Buck, Cain, Castleberry
Major rhetorical contributions from the Classical to the Modern Period.

446. Communication Theory (3) F, S Applbaum, Hays, Jenson, Porter, Yousef
Conceptual frameworks in communication theory; application of learning, motivation, perception and related theories to the study of speech. Not open to students with credit in Speech 446B.

447. Measurement in Communication Theory (3) F, S Applbaum, Jenson, Porter
Application of the scientific method to the study of speech; explanation of the role statistics, experimental and descriptive methodologies play in speech research. Not open to students with credit in Speech 446A.

448. Language and Symbolic Processes (3) F, S Briggs, Hauth, Hays, Jenson, Porter, Yousef
Prerequisites: Completion of general education speech requirement, Psychology 100. General semantics, linguistics and psycholinguistics in the analysis of oral language behavior; nature of language and meaning, including symbolism, abstraction, categorizing and distortion.

449. Studies in Oral Persuasion and Attitude Change (3) F, S Anatol, Applbaum, Jenson, Porter, Yousef
Prerequisites: Completion of general education speech requirement, Psychology 100. Attitude formation and change through oral communication; factors in persuasion; problems in determining the effects of persuasive messages; source credibility, message variables, and personality factors in the process of persuasion.

450. Comparative Theories of Speech Communication (3) F Skriletz
Prerequisite: Major or minor in speech communication or consent of instructor. History, philosophy and scope of the discipline of speech communication.

451. Intercultural Communication (3) S Porter, Yousef
Prerequisite: Speech 246. Study of the relationship between culture and communication with emphasis given to social, psychological, linguistic and nonverbal variables; problems in the practice of intercultural communication.

490. Special Topics in Speech Communication (1-3) F, S Faculty
Topics of current interest selected for intensive study in speech communication. May be repeated with different topics for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

499. Special Studies in Speech (1-3) F, S Faculty
Open to students with upper division or graduate standing and consent of instructor. Individualized laboratory or library research selected in consultation with instructor. Written report of the research is required. Not acceptable for graduate credit toward the master's degree.

Graduate Division

531. Administering the Forensic Program (3)

540. Modern Rhetorical Theory (3)

546. Issues in Communication Studies (3)

632. Seminar in Group Discussion (3)

633. Seminar in Oral Interpretation (3)

640. Seminar in Public Address (3)

646. Seminar in Communication Studies (3)

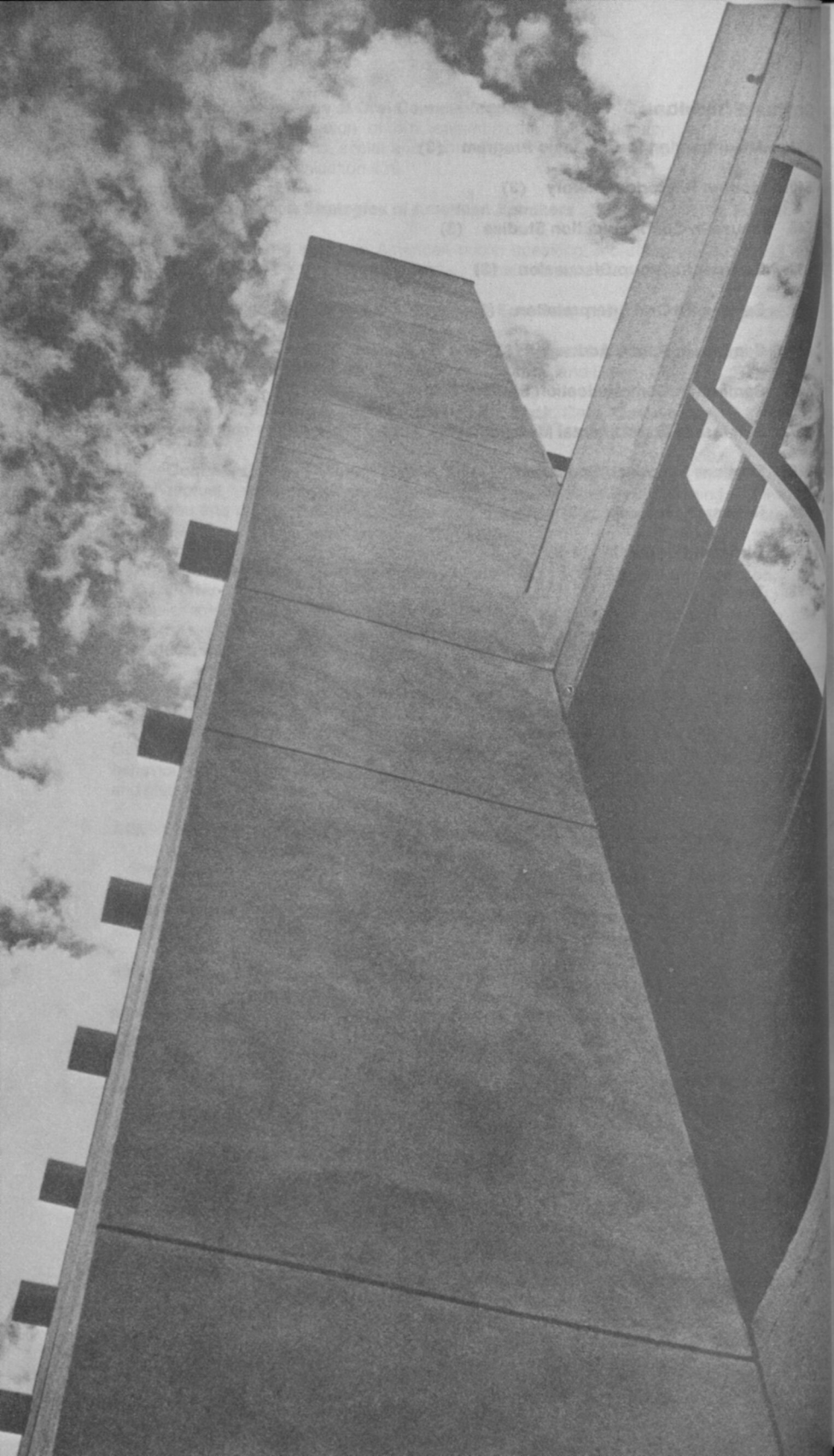
647. Seminar in Experimental Methodologies (3)

650. Seminar in Speech Education (3)

696. Research Methods (3)

697. Directed Research (1-3)

698. Thesis (2-4)



School of Natural Sciences

Administrative Officers

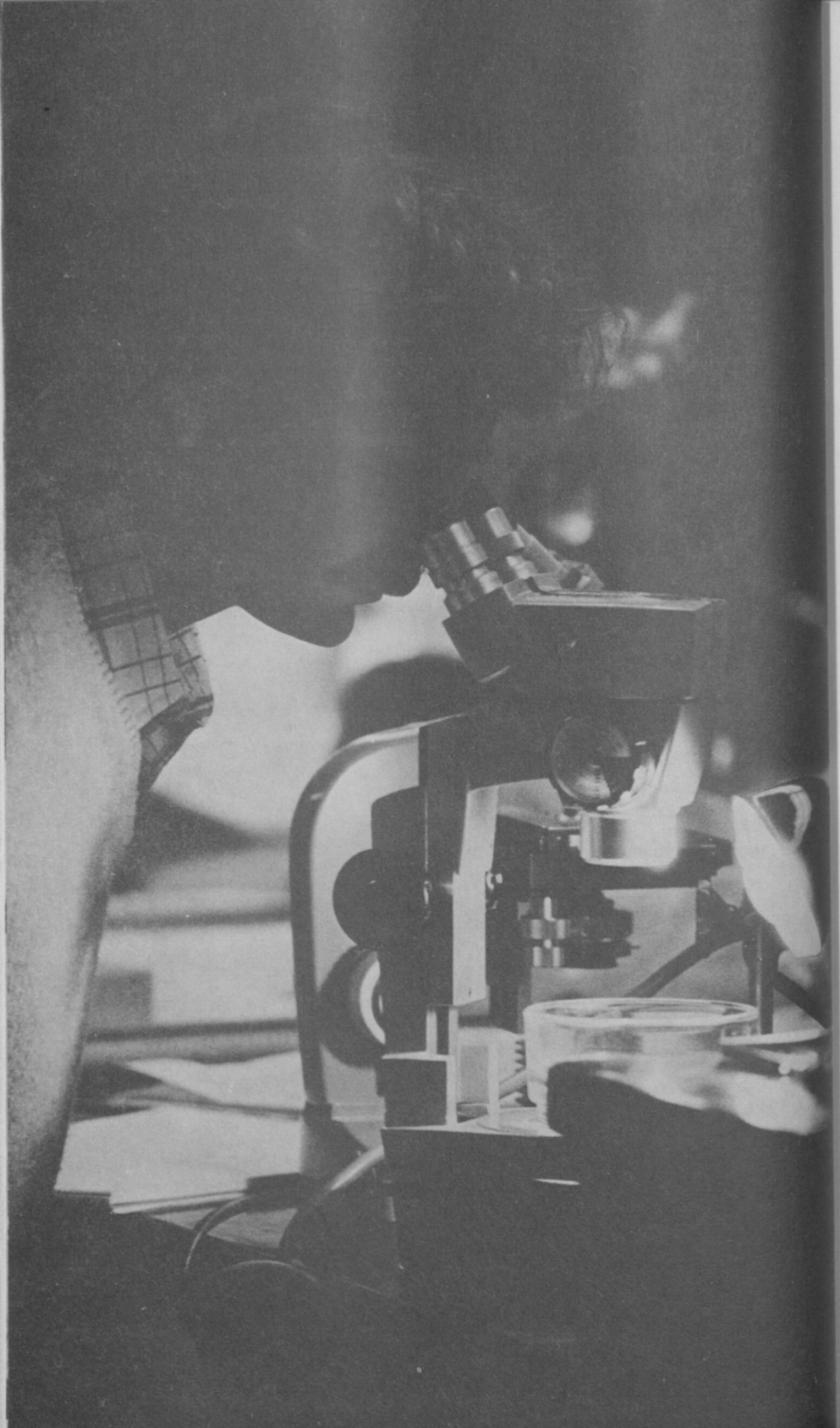
Dr. Roger D. Bauer	Dean of the School	FO5-103
Dr. Lee B. Stephens	Associate Dean	FO5-106
Mrs. Wilma Eyer	Administrative Assistant	FO5-105

Directory of Departments

Department	*Chair*	*Dept. Offices*
Biology	Dr. Frank J. Alfieri	SC1-111
Chemistry	Dr. Kenneth L. Marsi	SC3-242
Geological Sciences	Dr. Paul J. Fritts	SC3-46
Microbiology	Dr. Frank E. Swatek	SC2-212
Physics-Astronomy	Dr. John E. Fredrickson	SC3-115

Other School Offices

Science Education Office	Dr. William Ritz	FO5-118
Preprofessional Programs	Mrs. Jane Teague	FO5-104
Science Research Center	Miss Helen Hoffman	FO5-108
Science Student Center		FO5-109
Center for Ocean Science Studies	Dr. Murray D. Dailey	SCOSC
Center for Environmental Studies	Dr. Roswitha B. Grannell	FO5-118



Center for Environmental Studies

The Center for Environmental Studies has as its objectives (1) creation of an awareness of the kind and scope of environmental problems, (2) preparation to analyze environmental problems and issues and (3) training in research in and solution of environmental problems.

The Environmental Studies Certificate Program is interdisciplinary and is comparable to an academic minor of 24 units. It has four components: environmental ethics, the natural environment, human ecology (man and the physical environment) and analysis and application.

The program offers two patterns of completion, one directed toward the technically trained, research oriented student, the other directed toward the liberal arts, humanistically oriented student.

Interested students should contact the Director, Center for Environmental Studies.

Requirements for the Certificate in Environmental Studies:

1. A bachelor's degree.
2. Consultation with the director of the program.
3. Twenty-four units distributed as follows:

Option I—For students majoring in natural science or engineering

1. Environmental Ethics (three units)—Environmental Studies 360; Philosophy 360.
2. Natural Environment (six units outside the major; biology majors may select from courses in biological science outside their chosen emphasis) —*Life Sciences:* At least three units from Biology 103, 104, 105, 200, 204, 212, 216, 313, 315, 324, 350, 351, 352, 416, 450, 453, 464 (Biology 103, 104, 105, 204 not open to biology majors); Geography 442; Geology 490g; Microbiology 101, 210, 441. *Physical Sciences:* At least three units from Chemistry 111A-B; Geography 140, 440, 444; Geology 102 and 104 or 105, 103 and 104 or 105, 331, 463, 464, 465.
3. Human Ecology (12 units)—*Human Behavior:* At least three units outside the major from Biology 355; Economics 334; English 498 (this is a multi-topics course but only the section entitled "Exploit of Eden" is applicable to the Environmental Certificate); Mechanical Engineering 200; Microbiology 321; Political Science 426, 442; Psychology 351 or Sociology 335. *Man and Resources:* At least six units outside the major from Biology 354; Chemical Engineering 475; Civil Engineering 390, 460, 463, 464, 465, 467, 468, 469; Economics 305; Electrical Engineering 265; Geography 160, 204, 304, 355, 356, 460, 467; Geology 190, 191, 305; Health Science 322; Mechanical Engineering 201; Recreation 318; Sociology 410.

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4. Analysis and Application (three units)—At least three units from Biology 260, 451; Economics 380; Environmental Studies 496; Geography 387, 390; Geology 306; Health Science 485; Management 413; Mathematics 180; Psychology 310; Quantitative Systems 240; Urban Studies 402, 494.

Option II—For students whose majors are other than natural science or engineering

1. Environmental Ethics (three units)—Environmental Studies 360, Philosophy 360.
2. Natural Environment (nine units)—*Life Sciences:* At least three units from Biology 103, 104, 105, 200, 201, 212, 216, 350; Geography 442; Microbiology 100, 101. *Physical Sciences:* At least three units from Chemistry 100; Geography 140, 440, 444; Geology 102 and 104 or 105, 103 and 104 or 105; 160, 331.
3. Human Ecology (nine units)—*Human Behavior:* At least three units outside the major from Economics 334; English 498 (this is a multi-topics course but only the section entitled "Exploited Eden" is applicable to the Environmental Certificate); Mechanical Engineering 200; Microbiology 321; Political Science 426, 442; Psychology 351 or Sociology 335. *Man and Resources:* At least three units outside the major from Biology 100, 203; Chemical Engineering 475; Civil Engineering 390, 460, 464; Economics 305; Electrical Engineering 265; Geography 160, 204, 304, 355, 356, 460, 467; Geology 190, 191, 305; Health Science 322; Mechanical Engineering 201; Recreation 318; Sociology 350, 410.
4. Analysis and Application (three units)—At least three units from Biology 260, 451; Economics 380; Environmental Studies 496; Geography 387, 390; Health Science 485; Management 413; Mathematics 180; Psychology 310; Quantitative Systems 240; Urban Studies 402, 494.

Upper Division

360. Ethics and Ecology (3) F, S Massey

Philosophical look at ecological problems. Survey of a number of ethical positions held by the great philosophers will be made and current ecological problems will be looked at from the points of view of the ethical positions studied. Not open to students with credit in Philosophy 360.

490. Special Topics in Environmental Studies (1-3) On demand Faculty

Prerequisite: Consent of instructor. Topics of current interest in enviromental studies selected for intensive development. May be repeated for a maximum of six units of credit. Topics will be announced in the *Schedule of Classes*. Upon approval of the director of the Center for Environmental Studies, this course is acceptable for credit toward the Environmental Studies Certificate in lieu of equivalent units in appropriate subject areas of Options I and II.

496. Practical Involvement in Environmental Issues (3) F, S Faculty

Prerequisites: Fifteen units in the Environmental Certificate Program, consent of instructor. Intern experience in environmental studies in public agencies and private industry. Upon approval of the director of the Center for Environmental Studies this course is acceptable for credit toward the Environmental Studies Certificate in lieu of equivalent units in appropriate subject areas of Options I and II.

499. Directed Studies (1-3) F, S Faculty

Prerequisite: Consent of instructor. Independent study under the supervision of a faculty member. Upon approval of the director of the Center for Environmental Studies this course is acceptable for credit toward the Environmental Studies Certificate in lieu of equivalent units in appropriate subject areas of Options I and II.

Preprofessional Programs

Professional schools in many universities either require or recommend that applicants complete four-year programs for admission. Although the professional schools do not always require a bachelor's degree, they generally encourage basic preparation and a broad general education leading to that degree before beginning specialization.

The University offers preprofessional programs in law and in such health professions as dentistry, medicine, osteopathy, optometry, pharmacy, podiatry and veterinary medicine. Following are recommendations and requirements of universities and professional law, dental and medical schools in this vicinity. Information about the other health professions may be acquired from the Preprofessional Health Office in the School of Natural Sciences.

The student who intends to apply for admission to a professional school should select a major field of concentration. If a degree is to be completed, the requirements for the selected major shall be completed in addition to the courses specifically required for admission to a professional school.

Pre-Dental

Each pre-dental student should confer with a member of the Preprofessional Health Committee each semester for advice as to courses which may be required only by specific dental schools.

Pre-dental students most frequently select a major in zoology, chemistry or microbiology. However, any major academic field of concentration may be selected if the basic preprofessional requirements are incorporated in the preparation. Students are encouraged to secure further information from the Preprofessional Health Office where they may consult the pre-dental committee and *Admission Requirements of U.S. and Canadian Dental Schools*.

The basic requirements for entrance into most dental schools include General Zoology, General and Organic Chemistry, General Physics (all including laboratories), courses in English, psychology and social sciences, and in mathematics as required for courses in chemistry and physics. Certain additional courses in general education, science and a foreign language are recommended.

Pre-Medical

Each pre-medical student should confer with a member of the Preprofessional Health Committee each semester for advice as to courses which may be required only by specific medical schools. Pre-medical students most frequently

select a major in zoology, chemistry or microbiology. Other major academic fields may be selected if the basic preprofessional requirements are incorporated in the preparation.

Further information should be obtained from the *Admissions Requirements of American Medical Colleges Including Canada,* available in the Preprofessional Health Office, in the School of Natural Sciences, FO5-104.

The basic requirements for entrance into most medical schools include General Zoology, Vertebrate Embryology, General Botany, General and Organic Chemistry, Quantitative Analysis and General Physics (all including laboratories); mathematics as required for courses in chemistry and physics, social science courses and English. Certain additional courses in general education, science, and a foreign language are recommended.

Biology

Department Chair: Dr. Frank J. Alfieri.

Emeriti: Robert P. Durbin, Ross Hardy, Kenneth E. Maxwell, Donald D. Shipley.

Professors: Alender, Alfieri, Baird, Beekman, Bourret, Callison, Collins, Cox, Dailey, Hrubant, Jones, Kluss, Kroman, Leamy, Lincoln, Loomis, Mansfield-Jones, Menees, Nelson, Rainey, Reish, Schatzlein, Shipley, Sleeper, Stephens, Warter, Wellhouse, Wood.

Associate Professors: Anand, Baker, Biedebach, Dash, Gregory, Hill, Ho, Jenkins, Parmley, Ting, Tjioe.

Assistant Professors: Clover, Galt, Huckaby, Lippincott, Miller, Pang, Pietsch, Yokoyama.

Credential Adviser: Dr. William C. Ritz.

Academic Advising Coordinator: Dr. Frank J. Alfieri.

Programs in biology are offered to provide adequate preparation for advanced study at the graduate level, pre-professional programs in medicine, dentistry and allied fields, as well as for teaching or careers in industry and government.

The department offers a varied program in the biological sciences that can lead to a degree in any one of the following: biology, botany, entomology, marine biology or zoology. Courses in any of these degree programs should be selected in consultation with the major adviser who will be assigned in the department office. Elective courses may be selected that provide an emphasis in one, or a combination, of the following: biosystematics, ecology, genetics, marine biology, morphology and plant or animal physiology.

The department occupies facilities in three science buildings and has an electron microscope, a seawater system, greenhouses and research and teaching collections of algae, fungi, vascular plants, invertebrates (including insects) and vertebrates. Courses are offered in several areas of experimental biology. Because the campus is near the ocean, mountains, and deserts, the department is able to offer a number of field and laboratory courses in botany, ecology, entomology, marine biology and vertebrate zoology.

The Biology and Art Departments offer an interdisciplinary program in biomedical art which is described in this section.

The Biology Department also participates in the interdisciplinary Center for Ocean Science Studies. Information is listed under the School of Natural Sciences.

Major in Biology for the Bachelor of Arts Degree (code 2-7621)

Lower Division: Chemistry 111A-B; Biology 212, 216; Physics 105, 106; Microbiology 210; Mathematics 112, and either Mathematics 115S or Biology 260.

Upper Division: Chemistry 327 and a minimum of 28 units in biological sciences including the following: Biology 350; 370; 340 and 340L or 342 and 342L or 440 or 447 and 447L; 313 or 316 or 324 or 332 or 333; and 325 or 326 or 327 or 330 or 331. The student's entire program must include a minimum of two upper division animal biology courses and two upper division plant biology courses. A list of acceptable courses to meet this requirement is available in the Biology Department office. Remaining electives should be selected from above as well as other courses in consultation with a faculty adviser.

Major in Botany for the Bachelor of Science Degree (code 3-7642)

Lower Division: Chemistry 111A-B; Biology 212, 216; Physics 105, 106; Microbiology 210; Mathematics 112 and either mathematics 115S or Biology 260.

Upper Division: Chemistry 327 and a minimum of 33 units of upper division courses in biological sciences including Biology 316, 327, 331, 370, 447, 447L, 450, and the remaining units to be selected in consultation with the major adviser.

Major in Entomology for the Bachelor of Arts Degree (code 2-7652)

Lower Division: Chemistry 111A-B; Biology 212, 216; Physics 105, 106; Mathematics 112 and either Mathematics 115S or Biology 260.

Upper Division: Chemistry 327; Biology 316, 370; Biology 327 or 329 or 447 and 447L; either Ecology (Biology 350 or 352 or 450 or 453) or Biochemistry (Chemistry 441A or 448); Biology 340 and 340L or 342 and 342L or 440 or 448; six additional units of electives in Natural Sciences (excluding Entomology) selected in consultation with the major adviser. A minimum of 18 units of Entomology (including General Entomology) must be completed (these units to be determined in consultation with the major adviser).

Major in Marine Biology for the Bachelor of Science Degree (code 3-7626)

Lower Division: Chemistry 111A-B; Biology 212, 216; Physics 105, 106; Mathematics 112 and either Mathematics 115S or Biology 260.

Upper Division: Chemistry 327; Geology 465, 466; Biology 313, 320, 325, 370, 416, 340 and 340L or 440; six units of electives in marine biology and related areas selected from Geology 464; Biology 314, 315, 351, 417, 452, 454; Civil Engineering 468; Microbiology 441; plus six units of electives from Biology 324, 330, 331, 332, 333, 350, 352, 360, 430, 433, 447, 447L, 455.

Major in Zoology for the Bachelor of Science Degree (code 3-7643)

Lower Division: Chemistry 111A-B; Biology 212, 216; Physics 105, 106; Mathematics 112 and either Mathematics 115S or Biology 260.

Upper Division: Chemistry 327 and a minimum of 34 units in biological science including the following: Biology 313 or 316*, 332 or 333 or 433, 340 and 340L or 342 and 342L, or 440, 370; remaining electives should be selected in consultation with the major adviser.

* Students planning to enter medical, dental, or veterinary schools should substitute Biology 317 for Biology 316.

Minor in Biology (code 0-7621)

A minimum of 19 units is required for the minor.

Lower Division: A minimum of 10 units including Biology 212 and 216.

Upper Division: A minimum of nine units selected from upper division biology courses, except 300, 301 and 307, with at least one course selected from the 400 series.

Minor in Physiology (code 0-7604)

A minimum of 18 units is required for the minor. Majors in the Biology Department may elect this minor but the 18 units are in addition to those required for their major.

Lower Division: A minimum of seven units selected from the following courses: Biology 107, 202, 207, 208, 209, 216.

Upper Division: A minimum of 11 units selected from the following courses, at least eight of which must be selected from the Biology Department: Biology 307, 332, 336, 340, 340L, 342, 342L, 343, 345, 440, 441, 442, 446, 448; Physical Education 335; Chemistry 441A-B, 448; Psychology 345; Home Economics 331, 436.

Certificate Program in Biomedical Art

The Certificate Program in Biomedical Art is an interdisciplinary program sponsored by the Art and Biology Departments. Requirements for the certificate are listed in the School of Fine Arts section of this *Bulletin*.

Co-directors of the CSULB biomedical art program are in art: Richard Oden, professor, and Peter Mendez, assistant professor, and in biology: Dr. Hiden T. Cox, professor, and Dr. Kenneth Gregory, associate professor. Questions may be addressed to them during office hours which are listed in the respective departmental offices.

Master of Arts Degree in Biology

A program of study leading to the master of arts degree in biology is offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

100. Man and His Environment (3) F, S Faculty
Biological perspective on human problems including interactions between man and the world he lives in; the problems resulting from ignoring known ecological principles and the cultural implications of biological concepts. Not open for credit to biological science majors. (Lecture 3 hours.)

103. Animal Life in Southern California (3) F, S Rainey
Ecology, aesthetics and economic importance of some common amphibians, reptiles, birds and mammals of Southern California. Not open for credit to biological science majors. (Lecture 2 hours, laboratory 3 hours.)

105. Insects and Man (3) F, S Wellhouse
Discussion of the insects and their allies with emphasis on insect behavior and the role of beneficial forms in the natural environment. Not open for credit to biological science majors. (Lecture, discussion 3 hours.)

106. Birds (3) S Collins, Warter
General identification, life histories, ecology and conservation of local birds. Not open for credit to biological science majors. (Lecture 2 hours, laboratory and field 3 hours.)

107. Human Body-Structure and Function (3) F, S Faculty
Brief survey of structure and function of human systems. Designed for those who desire basic understanding of the body. Not open for credit to biology majors. Not open to students with credit in Biology 206. (Lecture 2 hours, laboratory 3 hours.)

200. General Biology (3) F, S Dash, Faculty
Survey of living organisms, including studies of the cell, metabolism, classification, life histories and heredity. Not open to majors or minors in biological science. (Lecture 2 hours, laboratory 3 hours.)

201. Marine Natural History (3) F, S Miller, Reish
Native plants and animals of the coast; emphasis on identification and life history of local forms. Collecting of specimens for study in laboratory an integral part of course. Not open for credit to biological science majors. (Lecture 2 hours, laboratory and field 3 hours.)

202. Human Anatomy (3) F, S Parmley
General introduction to the structure of human body systems with emphasis on skeletal and muscular systems. Not open for credit to biological science majors. Not suggested for general education requirement of a laboratory science. Not open to students with credit in Biology 101. (Lecture 2 hours, laboratory 3 hours.)

203. Conservation of Natural Resources (2) F, S Faculty
Natural resources of the world, with emphasis on those of the United States; extent, value, wise utilization and conservation of these resources for future generations. Not open for credit to biological science majors. (Lecture 2 hours.)

204. Heredity (3) F, S Hrubant
Principles of inheritance; role of heredity in improvement of plants and animals; implications in human genetics. Not open for credit to biological science majors. (Lecture 3 hours.)

205. Organic Gardening (3) F, S Bourret, Lincoln
Basic principles of flowers, vegetables and small fruit culture with emphasis on the concepts and practice of organic gardening. Not open for credit to biological science majors. (Lecture 2 hours, laboratory and field 3 hours.)

207. Human Physiology (4) F, S Alender, Biedebach
General introduction to the functional integration of human body systems. Not open for credit to biological science majors. Not open to students with credit in Biology 102. (Lecture 3 hours, laboratory 3 hours.)

208. Human Morphology (4) F, S Gregory
Prerequisite: Biology 200. The gross anatomy, histology and neuroanatomy of the human body. Designed primarily for majors in nursing or related disciplines. Not open to students with credit in Biology 208A. (Lecture 3 hours, laboratory 3 hours.)

209. Applied Physiology (4) F, S Lippincott
Prerequisites: Biology 200, Chemistry 200 or consent of instructor. Biology 208 may be taken concurrently. Principles of human physiology. Designed primarily for majors in nursing and related disciplines. Not open to students with credit in Biology 208B. (Lecture 3 hours, laboratory 3 hours.)

210. General Botany (3) F Faculty
Development of structures, functions and genetics of plants. (Lecture 2 hours, laboratory 3 hours.)

211. General Botany (2) S Faculty
Prerequisite: Biology 210. The morphology and life history of the major groups of plants. (Lecture 1 hour, laboratory 3 hours.)

212. General Botany (5) F, S Faculty
A course combining Biology 210 and 211. (Lecture 3 hours, laboratory 6 hours.)

216. General Zoology (5) F, S Faculty
Prerequisite: Chemistry 111A. Principles of animal biology. Metabolism, physiology, genetics, embryology, evolution and ecology of animals. (Lecture 3 hours, laboratory 6 hours.)

260. Biostatistics (3) F, S Faculty
Prerequisites: Mathematics 112, Biology 212 or 216. Use of probability and statistics in the description and analysis of biological data. (Lecture 2 hours, laboratory 3 hours.)

Upper Division

300. California Natural History (3) F, S Wellhouse
Common plants, animals, rocks and minerals; emphasis on local species and environments. Not open to biological science majors. (Lecture 2 hours, laboratory 3 hours.)

301. Science in the Elementary School (3) F, S Faculty
Prerequisites: Six units of natural science. Survey of the broad fields of science. Covers basic topics in elementary school science. Not open to science majors or minors. (Lecture 2 hours, demonstration 2 hours.)

302. Elementary School Science Workshop (2) SS Faculty
Program in carrying out science activities in grades one through eight. Not open for credit to biological science majors or minors. (Workshop 4 hours.)

307. Physiology for Therapists (4) F, S Anand
Prerequisites: Physical Therapy 300, Biology 200, Chemistry 300, Physics 104. Mechanisms of action and interaction of the various body systems, including the implications related to clinical and therapeutic treatment procedures. (Lecture 3 hours, laboratory 3 hours.) Not open for credit to majors in biological science.

313. Invertebrate Zoology (4) F, S Ho
Prerequisite: Biology 216 or Geology 140. Basic taxonomy, morphology, ecology, and distribution of the invertebrates. Protozoa through Arthropoda, excluding Insecta, but including Protochordates; emphasis on local marine forms. (Lecture 2 hours, laboratory and field 6 hours.)

314. Biology of the Protozoa (4) F, S Jones
Prerequisites: Biology 212 or 216; Chemistry 111A. A comparative study of certain morphological, physiological and life history features of representative protozoan species. Emphasis in the laboratory on optical, cytochemical, nutritional and other experimental techniques. (Lecture 2 hours, laboratory 6 hours.)

315. General Animal Parasitology (4) S Dailey
Prerequisite: Biology 216. The comparative morphology, systematics, and life history of protozoan, helminth, and other invertebrate parasites, excepting higher arthropods. Study not restricted to parasites of man. Emphasis on life cycles, the host-parasite interaction, and host examination and staining. (Lecture 2 hours, laboratory 6 hours.)

316. General Entomology (3) F, S Sleeper, Yokoyama
Prerequisite: Biology 216. Characteristics, structures, habits, life cycles of insects and their importance to man. (Lecture 2 hours, laboratory and field 3 hours.)

317. Medical Entomology (3) F, S Menees
Prerequisite: Biology 216. Collection, preparation, identification, habits, life cycle and control of insects and other arthropods of medical importance. (Lecture 2 hours, laboratory and field 3 hours.)

318. Medical Entomology Laboratory and Field Procedures (1) S Menees
Introduction to epidemiological and field survey methods, examination of arthropods for pathogens, methods of collecting, preparing and rearing medically important arthropods. (Laboratory and field 3 hours.)

319. Terrestrial Arthropods (3) F Faculty
Prerequisite: Biology 216. Common representatives of the groups of terrestrial arthropods exclusive of the insects. Emphasis on forms of local occurrence and on those which are important in gaining an understanding of relationships within the phylum and of relationships of the arthropods to other phyla. (Lecture 2 hours, laboratory 3 hours.)

320. Ichthyology (3) F, S Pietsch
Prerequisite: Biology 216. Taxonomy, morphology and ecology of fishes. (Lecture 2 hours, laboratory 3 hours.)

321. Herpetology (3) S Loomis
Prerequisite: Biology 216. Taxonomy, natural history, ecology and distribution of amphibians and reptiles; emphasis on local forms. (Lecture 2 hours, laboratory and field 3 hours.)

322. Ornithology (3) F, S Collins, Warter
Prerequisite: Biology 216. Morphology, taxonomy, ecology and behavior of birds; emphasis on laboratory and field study of adaptations of local forms. (Lecture 2 hours, laboratory and field 3 hours.)

323. Mammalogy (3) F, S Huckaby
Prerequisite: Biology 216. An evolutionary survey of the living mammals of the world. Emphasis on the adaptation of the major groups to their environments. (Lecture 2 hours, laboratory 3 hours.)

324. Vertebrate Zoology (4) F, S Huckaby, Warter
Prerequisite: Biology 216. An evolutionary and systematic survey of the living vertebrates. Emphasis on the phylogenetic origin and the morphological and physiological adaptations of the major groups. Not open for major credit if more than one of the following courses has been previously taken: Biology 320, 321, 322 or 323. (Lecture 3 hours, laboratory 3 hours.)

325. Algae (3) F, S Faculty
Prerequisite: Biology 212. Systematics, morphology, ecology, and phylogeny of marine and freshwater algae, emphasis on forms of Southern California. (Lecture 2 hours, laboratory and field 3 hours.)

326. Fungi (3) S Bourret
Prerequisite: Biology 212. Morphology, physiology and biology of fungi. (Lecture 2 hours, laboratory 3 hours.)

327. Taxonomy of Vascular Plants (4) S Baker
Prerequisite: Biology 212. Principles and methods of vascular plant systematics, including history, nomenclature and phylogeny; emphasis in the laboratory is on the identification and classification of native and introduced plants of Southern California. (Lecture 2 hours, laboratory and field 6 hours.)

328. Plants and Man (3) F, S Baker
Economic and social role of plants and plant products in our civilization, from a botanical perspective. Emphasis on the origins, methods of processing and uses of plants. Recommended for non-science majors and prospective teachers. (Lecture 3 hours.)

328L. Plants and Man Laboratory (1) F Baker
Prerequisite: Concurrent enrollment in Biology 328. Field trips and practical laboratory experience in processing plant products. (Laboratory or field trips 3 hours.)

329. Plant Pathology (3) F Bourret
Prerequisites: Biology 212, Chemistry 111A-B. Principles and practices of plant pathology. Structure, development and classification of pathogens. Emphasis on diagnosis, treatment and control of diseases affecting cultivated plants. (Lecture 3 hours.)

330. Plant Anatomy (3) F, S Alfieri
Prerequisite: Biology 212. Structure and growth of meristems; development and structure of cells, tissues and tissue systems; comparative anatomy of leaf, stem and root. (Lecture 2 hours, laboratory 3 hours.)

331. Plant Morphology (4) F, S Cox
Prerequisite: Biology 212. Comparative structure, life history and phylogenetic relationships of plants. (Lecture 2 hours, laboratory 6 hours.)

332. Comparative Anatomy (4) F, S Callison
Prerequisite: Biology 216. History of vertebrate structures; application of anatomy to phylogeny, taxonomy and functional morphology. (Lecture 2 hours, laboratory 6 hours.)

333. Vertebrate Embryology (4) F, S Jenkins, Stephens
Prerequisite: Biology 216. Steps in development of an organism to hatching or birth; starfish, amphioxus and frog development; emphasis on chick and human development. (Lecture 2 hours, laboratory 6 hours.)

335. Histology (3) S Kluss
Prerequisite: Biology 216. Microscopic anatomy of animals; nature and characteristics of tissues, organs and organ systems; emphasis on human histology. (Lecture 2 hours, laboratory 3 hours.)

336. Human Prosection (2) F, S Gregory
Prerequisite: Consent of instructor. Detailed regional dissection of the human body with emphasis on dissection technique. May be repeated once for credit. (Laboratory 6 hours.)

340. Comparative Animal Physiology (3) F, S Alender, Beekman
Prerequisites: Biology 216; Chemistry 111A-B. Comparison of the fundamental physiological processes of the major animal phyla. (Lecture 3 hours.)

340L. Laboratory in Comparative Animal Physiology (1) F, S Faculty
Prerequisite: Biology 340 (may be taken concurrently). Laboratory course designed to acquaint students with direct observation and measurement of physiological processes in various animal groups, both invertebrate and vertebrate. (Laboratory 3 hours.)

342. Vertebrate Physiology (3) F, S Anand, Tjioe
Prerequisites: Biology 216; Chemistry 111A-B. Principles of the function of the systems of vertebrates including man. Not open to students with credit in Anatomy and Physiology 240. (Lecture 3 hours.)

342L. Laboratory in Vertebrate Physiology (1) F, S Faculty
Prerequisite: Biology 342 (may be taken concurrently). Laboratory course with applications to the principles included in Biology 342.

343. Endocrinology (3) F, S Schatzlein
Prerequisites: Biology 216; Chemistry 111A-B. Role of the endocrines in vertebrate and invertebrate adjustment to changes in the internal and external environment. (Lecture 3 hours.)

345. Pathophysiology (2) F, S Anand, Gregory
Prerequisites: Biology 208, 209; Chemistry 300; Microbiology 210. Pathogenesis and pathophysiology of human nervous, musculoskeletal, endocrine, cardiovascular, respiratory, excretory, digestive and reproductive systems with emphasis on clinical correlations and the physiological basis of common disorders. Not open for credit to biological science majors. (Lecture 2 hours.)

350. General Ecology (3) F, S Clover, Miller
Prerequisites: Biology 212, 216; Mathematics 112. Chemistry and physics recommended. Relationships of plants and animals to their physical and biological environment; structure and function of populations, communities and ecosystems. (Lecture 3 hours, and two required Saturday field trips.)

351. Animal Behavior (4) S Nelson
Prerequisite: Biology 216. Introduction to vertebrate and invertebrate ethology; innate and learned behavior, social and reproductive behavior, sensory adaptation, orientation, migration and communication. Emphasis on ecological and evolutionary aspects. (Lecture 3 hours, laboratory and field 3 hours.)

352. Dynamics of Animal Populations (3) F, S Rainey
Prerequisites: Biology 216, Mathematics 112 and either Mathematics 115S or Biology 260. Response to components of the physical environment, distribution, density, dispersal rates, reproduction, growth, regulation and social behavior of natural animal populations. Experimentation and quantitative information stressed. (Lecture 2 hours, laboratory and field 3 hours.)

354. Conservation (3) F Faculty
Prerequisite: Biology 212 or 216. Wise utilization of natural resources in the United States; historical development, economics, water, soils, minerals, forests, grasslands, wildlife, recreational resources, planning and the conservation of man. (Lecture 2 hours, laboratory and field 3 hours.)

360. Microtechniques (3) F Kluss, Wood
Prerequisites: Five units of biological science, consent of instructor. Principles and methods employed in preparation of plant and animal tissue for microscopic study. (Lecture 1 hour, laboratory 6 hours.)

363. Biological Graphics (2) S R. Johnson
Prerequisite: Photography 210 or consent of instructor. Experience in the preparation of photographic and graphic material for scientific publication and science classroom instruction. Course is designed specifically for science majors. (Laboratory 6 hours.)

364. Biomedical Illustration (2) F, S Cox, Gregory
Prerequisites: Degree in biology or art in progress, consent of instructor. Must be taken concurrently with Art 374A-B. May be repeated for a maximum of four units. (Activity 4 hours.)

370. General Genetics (4) F, S Faculty
Prerequisites: Biology 212 or 216, Mathematics 112 and either Mathematics 115S or Biology 260. Detailed study of classical transmission genetics and an introduction to the principles of human and microbial genetics, radiation biology, and the current observations and concepts of the nature, organization and action of the genetic material. (Lecture 3 hours, laboratory 3 hours.)

412. Evolutionary Biology (3) S Kroman
Prerequisite: Biology 370 or an equivalent course in genetics. Introduction to the theory of evolution including the origin of life, an examination of the mechanisms involved in its continued adaptation and a description of the results of that adaptation. (Lecture 3 hours.)

416. Marine Biology (3) F, S Galt
Prerequisites: Biology 313 or Geology 341, Chemistry 111A-B. Introduction to physical, chemical and biological aspects of marine environment. Ecology of organisms of littoral, deep sea and pelagic zones; their economic implication. (Lecture 2 hours, laboratory and field 3 hours.)

417. Invertebrate Systematics (3) S Reish
Prerequisite: Biology 313. Systematics of invertebrates, excluding insects. (Lecture 1 hour, laboratory and field 6 hours.)

418. Systematic Entomology (3) S Sleeper
Prerequisite: Biology 316. Classification of insects, taxonomic categories and procedure; bibliographical methods; nomenclature; museum practices. (Lecture 2 hours, laboratory and field 3 hours.)

420. Immature Insects (3) F Sleeper
Prerequisite: Biology 316. Morphology and taxonomy of immature insects of all major orders; emphasis on identification of larvae of economically important orders; Coleoptera, Lepidoptera, Diptera and Hymenoptera. (Lecture 2 hours, laboratory 3 hours.)

422. Economic Entomology (3) F Yokoyama
Prerequisite: Biology 316 or equivalent. Integrated pest management of arthropods affecting plants and animals; recognition, life history and habits; the manipulation of insect and mite populations by chemical, mechanical, legislative and environmental methods. (Lecture 2 hours, laboratory and field 3 hours.)

430. Cytology (2) S Wood
Prerequisite: Biology 212 or 216. Structure, organization and function of protoplasm at the microscopic and submicroscopic levels, including techniques of study. (Lecture 2 hours.)

431. Cytology Laboratory (2) S Wood
Prerequisites: Biology 430, consent of instructor. Experimental approaches to problems of cell structure and function, using electron microscopy, phase microscopy, autoradiography and other methods. (Laboratory 6 hours.)

433. Developmental Biology (3) F Jenkins
Prerequisite: Biology 370. Analysis of classical and current experiments dealing with fertilization, differentiation, embryonic induction, cell movement and morphogenesis. (Lecture 1 hour, laboratory 6 hours.)

434. Insect Morphology (3) F Menees
Prerequisite: Biology 316. Comparative anatomy of insects, structure of mouth parts, the mechanisms of feeding, locomotion, flight, and reproduction. Emphasis on the relationships of musculature to external forms. (Lecture 2 hours, laboratory 3 hours.)

437. Vertebrate Paleontology (3) S Callison
Prerequisite: Biology 332 or Geology 140. Evolution of vertebrates as related to earth history, paleoecology and functional morphology. Laboratory: techniques of phylogenesis, biostratigraphy and analysis of paleoenas. (Lecture 2 hours, laboratory and field 3 hours.)

440. General and Cellular Physiology (4) F, S Schatzlein
Prerequisites: Five units of biological sciences, Chemistry 327, Physics 105, 106. Physiological processes of plant and animal cells and tissues basic to understanding the function of the whole organism. (Lecture 3 hours, laboratory 3 hours.)

441. Cardiovascular Physiology (3) S Lippincott, Tjioe
Prerequisite: Biology 340 or 342, Physics 105, 106. Functions of the cardiac, vascular and blood systems in the vertebrate animal. (Lecture 3 hours.)

442. Neuromuscular Physiology (3) S Biedebach
Prerequisite: Biology 340 or 342 or 440 or consent of instructor. Emphasis upon the mechanisms by which nerve and muscle cells function. Representative examples will be selected from vertebrate and invertebrate phyla. (Lecture 2 hours, laboratory 3 hours.)

446. Respiratory and Renal Physiology (3) F Lippincott
Prerequisites: Biology 340 or 342, Physics 105, 106. Functions and interactions of the respiratory and renal systems. Both vertebrate and invertebrate systems will be studied. (Lecture 3 hours.)

447. Plant Physiology (3) F, S Lincoln
Prerequisites: Biology 212 and Chemistry 327. Photosynthesis and other anabolic syntheses, respiration, mineral nutrition, water relationships, growth and development of plants. (Lecture 3 hours.)

447L. Plant Physiology Laboratory (1) F, S Lincoln
Prerequisite: Biology 447 (may be taken concurrently). Laboratory experiments in plant physiology.

448. Insect Physiology (3) S Menees
Prerequisite: Biology 434. Muscle contraction, digestion, nutrition and metabolism, circulation, excretion, reproduction, molting, endocrine glands and hormones, and enzyme systems of insects. (Lecture 2 hours, laboratory 3 hours.)

450. Plant Ecology (3) S Mansfield-Jones
Prerequisite: Biology 327 (may be taken concurrently). Relationship of plants to their environment and principles of plant distribution. (Lecture 2 hours, laboratory and field 3 hours.)

451. Field Studies in Biology (1-6) On demand Faculty
Prerequisites: Six units of upper division biological science and consent of instructor. Field studies in behavioral or environmental or taxonomic biology at the organism, population or community level. Emphasis on application of field techniques to the solution of biological problems. May be repeated for credit up to a maximum of six units toward the major. Topics to be announced in the *Schedule of Classes*. (Lecture, laboratory and field arranged.)

452. Marine Plankton (4) F Galt
Prerequisites: Biology 313, 416. Biology 260 recommended. Ecology, adaptations, life histories and identification of planktonic organisms in the sea. (Lecture 2 hours, laboratory and field 6 hours.)

453. Insect Ecology (3) S Sleeper
Prerequisite: Biology 316 or 317. Field and experimental studies of abundance dispersal, distribution and behavior. (Lecture 2 hours, laboratory and field 3 hours.)

455. Physiological Animal Ecology (3) F Hill
Prerequisites: Biology 340, 340L, 350. Study of variations in time and space of physical and chemical environmental factors and of adaptations of animals to these variations. Physiological adaptations are stressed, but anatomical and behavioral adaptations are also discussed. (Lecture 2 hours, laboratory 3 hours.)

460. Biological Control of Insects (3) F Sleeper
Prerequisite: Biology 316. Natural and artificial control of pest species of insects and other arthropods through use of predators, parasites, fungi, virus, and bacterial diseases. (Lecture 2 hours, laboratory and field 3 hours.)

461. Toxicology of Pesticides (3) S Yokoyama
Prerequisite: Chemistry 327 or equivalent. Invertebrate and mammalian toxicity of materials used for protection of food, fiber, and human health; mode of action, chemical properties, bio-assay, phytotoxicity, insecticide residues, hazards, legal aspects, effect on aquatic and terrestrial wildlife, and environment. (Lecture 2 hours, laboratory 3 hours.)

464. Environmental Toxicology (3) F Yokoyama
Prerequisites: Biology 212 or 216, Chemistry 327. Metabolism, mode of action and detoxication mechanisms of toxic substances in organisms. Effects of pollutants, waste products, chemicals of commerce, warfare agents, drugs and narcotics on human health and the environment, their regulation and control. (Lecture 3 hours.)

470. Mammalian Physiological Genetics (3) S Hrubant
Prerequisites: Biology 370, Chemistry 327. Genetic basis of metabolic disorders in mammals with special emphasis on man. (Lecture 3 hours.)

472. Quantitative Genetics (3) S Leamy
Prerequisite: Biology 370. Analysis and application of genetic principles underlying genetic characters exhibiting continuous variation. Response to inbreeding and selection and the role of quantitative characters in evolutionary theory. (Lecture 3 hours.)

473. Molecular Genetics (3) S Ting
Prerequisites: Biology 370, Chemistry 327. Nature, replication, regulation and mode of action of the genetic material. (Lecture 3 hours.)

475. Cytogenetics (2) F Hrubant
Prerequisite: Biology 370. Development of the mitotic apparatus and chromosomal movement during cell reproduction. Structure and replication of the chromosome, synapsis and chiasma formation and aberrant chromosomal behavior. (Lecture 2 hours.)

475L. Cytogenetics Laboratory (2) F, even years Hrubant
Prerequisites: Biology 370 and 475 which may be taken concurrently. Microscopic study of the processes of mitosis, meiosis and aberrant chromosomal behavior. Chromosome culture, karyotyping and the effects of external agents on the chromosomes. (Laboratory 6 hours.)

490. Special Topics in Biology (1-3) On demand Faculty
Prerequisite: Consent of instructor. Topics from selected areas of biology. Course content will vary from section to section. May be repeated for credit with the consent of instructor. Maximum credit for Biology 490 and/or Biology 490L limited to six units. Topics to be announced in the *Schedule of Classes*. (Lecture 1-3 hours.)

490L. Laboratory in Special Topics in Biology (1-3) On demand Faculty
Prerequisite: Consent of instructor. Topics from selected areas of biology. Course content will vary from section to section. May be repeated for credit with the consent of instructor. Maximum credit for Biology 490 and/or Biology 490L limited to six units. Topics to be announced in the *Schedule of Classes*. (Laboratory 3-9 hours.)

495. Supervised Laboratory Techniques (1-2) F, S Faculty
Prerequisite: Biology 202 or 208 or both 212 and 216, and consent of instructor. Experience for upper division students in the organization of and techniques for a laboratory in biology. Includes individual supervision of directed teaching. May be repeated for a maximum of two units. (Conference 1 hour, laboratory 3 hours.)

496. Investigations in Biology (1-3) F, S Faculty
Prerequisite: Consent of instructor. Research in a specific subject in biology. Topic of study to be approved and directed by a faculty member in the Department of Biology. May be repeated to a maximum of 3 units. (Conference 1 hour, laboratory 3 hours per unit.)

Graduate Division

500. Topics in Biology (2)

512. Organic Evolution (3)

517. Polychaete Systematics (3)

520. Advanced Ichthyology (2)

521. Advanced Herpetology (2)

522. Advanced Ornithology (2)

523. Advanced Mammalogy (2)

524. Principles of Animal Taxonomy (2)

525. Advanced Parasitology (2)

526. Advanced Insect Systematics (2)

530. Advanced Cytology (2)

531. Adaptive Vertebrate Morphology (3)

532. Invertebrate Embryology (4)

540. Radio-Chemical Techniques in Biology (4)

541. Experimental Endocrinology (3)

542. Plant Growth and Development (3)

545. Mammalian Metabolism (3)

550. Ecology of Marine Communities (3)

551. Plant Geography (2)

552. Zoogeography (2)

560. Biological Literature (2)

561. History of Biology (2)

562. Biometry (4)

563. History of Entomology (2)

590. Special Topics in Biology (1-3)

590L. Laboratory in Special Topics in Biology (1-3)

660. Seminar (1)

696. Research Methods (2)

697. Directed Research (1-3)

698. Thesis (1-6)

Chemistry

Department Chair: Dr. Kenneth L. Marsi.

Emeritus: Clyde E. Osborne.

Professors: Bauer, Becker, Goldish, Harris, Henderson, Jensen, Kalbus, Kierbow, Lieu, Marsi, Mayfield, Perlgut, Po, Senozan, Simonsen, Stern, Tharp, Wynston.

Associate Professors: Baine, Berry, Devore, Hunt, Legg, Loeschen.

Assistant Professors: Cohlberg, Dunne, Maricich, Osborne, Wikholm.

Academic Advising Coordinator: Dr. Kenneth L. Marsi.

The program in chemistry at the bachelor's degree level is planned to promote development of both a broad and specialized background in a specific science, to serve as preparation for graduate work in chemistry or biochemistry, and to provide a foundation for those students seeking careers in teaching, medicine and in industrial and governmental scientific endeavors. The B.S. in chemistry program is approved by the American Chemical Society.

Major in Chemistry for the Bachelor of Science Degree (code 3-7661)

Chemistry majors must achieve a grade of C or better in all chemistry courses required for the major.

Lower Division: Chemistry 111A-B, 251, 251L; courses to support the major to include Physics 151, 152, 153 and Mathematics 122, 123, 224, and one of the following: Microbiology 210, Biology 210, 212, 216. A reading knowledge of scientific German or Russian is required.

Upper Division: Chemistry 321A-B, 371A-B, 373, 385, 431, 451, either 491 and 499 or English 300 or 317, and an additional six units of upper division chemistry. A maximum of three units from Chemistry 496 and Chemical Engineering 320, 305, or 430 may be used to fulfill this six-unit requirement.

Transfer Students: A student who transfers to the University must take at least 16 units of upper division chemistry courses here including either Chemistry 321B or Chemistry 371A-B. In exceptional situations, at the discretion of the department, advanced courses may be substituted for the 321B or Chemistry 371A-B requirement. To receive credit toward the major for Chemistry 321A and 321B, which have been taken elsewhere, the consent of the department chairperson is required.

Major in Chemistry for the Bachelor of Arts Degree (code 2-7661)

Chemistry majors must achieve a grade of C or better in all chemistry courses required for the major.

Lower Division: Chemistry 111A-B, 251, 251L; courses to support the major to include Physics 100A,B; Mathematics 115S and 116 or 122. (Students who contemplate further study in chemistry or biochemistry are advised to take Mathematics 122.)

Upper Division: Chemistry 321A-B, 377 (or 371A), 451 and a minimum of six additional units of chemistry, chosen in consultation with an adviser, from Chemistry 371B, 373, 421, 422, 431, 441A,B, 443, 461 and 496. A maximum of three units of Chemistry 496 may be used to fulfill this six-unit requirement. Students are encouraged to consult with an adviser relative to selecting additional units in accordance with the students' individual goals and interests. Courses in biological sciences are recommended for preprofessional students, in business for those interested in marketing, and in English and journalism for those interested in technical writing. Candidates for a teaching credential must complete at least six units selected from Geology 103, 460, 461, 463.

Transfer Students: A student who transfers to the University must take at least 12 units of upper division chemistry courses here. To receive credit toward the major for Chemistry 321A and B, which have been taken elsewhere, the consent of the department chairperson is required.

Minor in Chemistry (code 0-7661)

A minimum of 20 units of chemistry which must include Chemistry 111A-B. Nine units must be taken from upper division chemistry courses.

Master of Science Degree in Chemistry

Master of Science Degree in Biochemistry

Programs of study leading to the master of science degree in chemistry and the master of science degree in biochemistry are offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

100. Fundamentals of Chemistry (4) F, S Faculty
Prerequisite: One year of high school algebra or consent of instructor. General course including elementary inorganic, organic and biological chemistry. Not open to majors or minors in the physical sciences or to students with credit in Chemistry 111A. (Lecture 3 hours, laboratory 3 hours.)

101. Introduction to General Chemistry (3) F, S Faculty
Prerequisite: One year of high school algebra. (This course is a prerequisite to Chemistry 111A if the student fails to pass the Chemistry Placement Examination.) Basic principles and concepts including atomic structure, nomenclature and chemical calculations with emphasis on problem solving. Does not count for General Education credit. Offered on a credit-no credit basis only. (Lecture 3 hours, laboratory-problem session 3 hours. Course begins the fourth week of the semester.)

111A. General Chemistry (5) F, S Faculty
Prerequisite: Mathematics 101 or 102 (may be taken concurrently) and successful completion of a placement examination or Chemistry 101. High school chemistry and physics are recommended. The first semester of a two-semester sequence (Chemistry 111A and Chemistry 111B). Introduction to the principles of chemistry including chemical bonding, solution properties and chemical equilibrium and kinetics. Recommended for students who intend to pursue careers in science or engineering. (Lecture 3 hours, laboratory and problem session 6 hours.)

111B. General Chemistry (5) F, S Faculty
Prerequisite: Chemistry 111A with a grade of C or better. The second semester of a two-semester sequence (Chemistry 111A and Chemistry 111B). Continuation of the study of chemical principles with application to inorganic systems. Includes application of modern bonding theories to inorganic molecules and study of trends and reactivities of the elements and their compounds. Qualitative inorganic analysis and extensive solving of aqueous equilibrium problems are emphasized in laboratory and problem solving sessions. (Lecture 3 hours, laboratory and problem solving sessions 6 hours.)

200. Introduction to Chemistry (4) F, S Kalbus, Loeschen, Senozan, Stern
Prerequisite: High school algebra. Introduction to the fundamental principles of chemistry and the beginning study of organic chemistry. Not open to students with credit in Chemistry 111A. (Lecture 3 hours, laboratory 3 hours.)

251. Quantitative Analysis (2) F, S Kalbus, Legg, Lieu
Prerequisite: Chemistry 111B with a grade of C or better. It is recommended that Chemistry 251L be taken concurrently. Introduction to the theories and techniques of gravimetric and volumetric analysis, with emphasis on the latter. This course, together with 251L, meets the requirements of most medical schools. (Lecture 2 hours.)

251L. Quantitative Analysis Laboratory (2) F, S Kalbus, Legg, Lieu
Prerequisite: Chemistry 251 with a grade of C or better or concurrent registration in 251. Laboratory work in which the principles taught in 251 are applied to the analysis of unknown samples. (Laboratory 6 hours.)

Upper Division

300. Bio-organic Chemistry (4) F, S Berry, Cohlberg, Dunne, Perigut, Simonsen, Wynston
Prerequisites: Chemistry 200 with a grade of C or better, satisfactory performance on a qualifying examination. Continuation of the study of organic chemistry and an introduction to biochemistry. Does not meet the requirements of medical or dental schools. (Lecture 3 hours, laboratory 3 hours.)

321A. Organic Chemistry (5) F, S Goldish, Harris, Henderson, Jensen, Loeschen, Maricich, Marsi, Mayfield, Wikholm
Prerequisite: Chemistry 111B with a grade of C or better. Chemistry 251 and 251L are recommended. The first semester of a two-semester sequence (Chemistry 321A and either 321B or 322). Designed primarily for chemistry majors, but open to other students who desire a broad background in this field. This sequence meets the requirements for medical and dental schools. Emphasis is upon the application of modern principles to structure, reactivity, methods of synthesis and physical properties of organic compounds; and spectroscopy including UV, IR, NMR and mass spectroscopy. (Lecture 3 hours, laboratory and quiz section 6 hours.)

321B. Organic Chemistry (5) F, S Goldish, Harris, Henderson, Jensen, Loeschen, Maricich, Marsi, Mayfield, Wikholm
Prerequisite: Chemistry 321A with a grade of C or better. The second semester of a two-semester sequence (Chemistry 321A and 321B) for students desiring 10 units of organic chemistry. A continuation of the study of organic chemistry including heterocycles, nitrogen compounds, natural products and special topics. (Lecture 3 hours, laboratory and quiz section 6 hours.)

322. Organic Chemistry Lecture (3) F, S Goldish, Harris, Henderson, Jensen, Loeschen, Maricich, Marsi, Mayfield, Wikholm
Prerequisite: Chemistry 321A with a grade of C or better. The second semester of a two-semester sequence (Chemistry 321A and 322) for students desiring 8 units of organic chemistry. Not open to chemistry majors or to students with credit in Chemistry 321B. Similar to the lecture portion of Chemistry 321B. (Lecture 3 hours.)

323. Organic Chemistry Laboratory (2) F, S Goldish, Harris, Henderson, Jensen, Loeschen, Maricich, Wikholm
Prerequisites: Chemistry 322 with a grade of C or better and consent of department chairperson. For students who have credit in Chemistry 322 and change to a major requiring 10 units of organic chemistry.

327. Organic Chemistry (3) F, S Goldish, Harris, Henderson, Jensen, Loeschen, Maricich, Marsi, Mayfield, Wikholm
Prerequisite: Chemistry 111A with a grade of C or better. Lecture course in the chemistry of the carbon compounds. Not applicable to a degree in chemistry. (Lecture 3 hours.)

328. Organic Chemistry Laboratory (3) F, S Goldish, Harris, Jensen, Loeschen, Maricich, Wikholm
Prerequisite: Chemistry 327 which may be taken concurrently. Designed to provide training in the basic techniques of the organic chemistry laboratory. Not applicable to a degree in chemistry. (Lecture 1 hour, laboratory 6 hours.)

371A. Physical Chemistry (3) F, S Baine, Becker, Devore, Senozan, Stern
Prerequisites: Chemistry 111B and 251 with a grade of C or better, Mathematics 224, Physics 153. The first semester of a two-semester sequence (Chemistry 371A and either Chemistry 371B or 372.) Principles and applications of classical thermodynamics. Introduction to statistical thermodynamics. (Lecture 3 hours.)

371B. Physical Chemistry (3) F, S Baine, Becker, Devore, Senozan, Stern
Prerequisite: Chemistry 371A with a grade of C or better. The second semester of a two-semester sequence (Chemistry 371A and 371B) in physical chemistry. Introduction to quantum chemistry, spectroscopy and chemical kinetics.

372. Physical Chemistry (3) F Senozan
Prerequisite: Chemistry 371A with a grade of C or better (or 377 with consent of instructor). Selected topics in physical chemistry that are pertinent to biological systems. Quantitative discussion of solution thermodynamics, multiple equilibria, chemical kinetics, transport phenomena, ionic mobility, quantum mechanics and spectroscopy.

373. Physical Chemistry Laboratory (3) F, S Baine, Devore, Senozan, Stern
Prerequisites: Chemistry 251, 251L, 371A, and Chemistry 371B (which may be taken concurrently), all with a grade of C or better. Introduction to basic apparatus and techniques of physicochemical experimentation and research and application of the principles discussed in 371A-B. Reference to chemical literature is required. (Lecture 1 hour, laboratory 6 hours.)

377. Fundamentals of Physical Chemistry (3) F, S Baine, Becker, Devore, Hunt, Senozan, Stern
Prerequisites: Chemistry 111B with a grade of C or better, Mathematics 115S or 122, Physics 100B or 152. Principles and mathematical methods of physical chemistry, with solution of problems in the thermodynamics and kinetics. Not open to students with credit in Chemistry 371A. Not applicable to a B.S. degree in chemistry. (Lecture 3 hours.)

385. Computer Methods in Chemistry (2) F, S Baine, Devore
Prerequisites: Chemistry 111B with a grade of C or better, Mathematics 224, Physics 152. Beginning Fortran programming applied to typical problems in chemical engineering and chemistry. (Lecture 1 hour, laboratory 3 hours.) Not open to students with credit in Chemical Engineering 305.

421. Physical Organic Chemistry (3) F Goldish, Harris, Henderson, Jensen, Loeschen, Maricich, Marsi, Wikholm
Prerequisites: Chemistry 321B or 322 with a grade of C or better or pass the Organic entrance exam and 371B or 377. Theoretical interpretations of the chemical and physical properties of organic compounds including the following: mathematical derivations of rate equations from experimental results, calculations of reaction rate constants from experimental data, quantitative comparison of the reactivities of organic compounds, mathematical correlations of structure and properties. Practice in solving problems relating reaction mechanisms to the factors derived above.

422. Identification of Organic Compounds (3) S Goldish, Harris, Henderson, Jensen, Loeschen, Maricich, Marsi, Wikholm
Prerequisites: Chemistry 251, 251L and 321B, all with a grade of C or better, or pass the Organic entrance exam. Characterization of organic compounds through study of their chemical and physical properties. (Lecture 1 hour, laboratory 6 hours.)

431. Advanced Inorganic Chemistry (3) F Hunt, Po, Tharp
Prerequisite: Chemistry 371A with a grade of C or better and Chemistry 371B (may be taken concurrently). Detailed quantitative study of chemical bonding in inorganic molecules with emphasis on molecular orbital theory. Extensive coverage of transition metal chemistry including coordination chemistry, ligand field theory, application of spectroscopy to structural analysis of inorganic molecules and a review of properties and reactivities of the elements and their compounds.

441A. Biological Chemistry (3) F, S Berry, Cohlberg, Dunne, Perlgut, Simonsen, Wynston
Prerequisites: Chemistry 111B, 321B or 322 (may be taken concurrently) or Chemistry 327, all with a grade of C or better. A biology or microbiology course is recommended. The first semester of a two-semester sequence (Chemistry 441A and 441B) in biochemistry. A chemical and mathematical treatment of the energetics and kinetics of reactions in living systems, including the chemistry and metabolism of carbohydrates and lipids. (Lecture 3 hours.)

441B. Biological Chemistry (3) F, S Berry, Cohlberg, Dunne, Perlgut, Simonsen, Wynston
Prerequisite: Chemistry 441A with a grade of C or better. The second semester of a two-semester sequence (Chemistry 441A and 441B) in biochemistry. Structure, function and metabolism of proteins and nucleic acids and other advanced topics in metabolism. (Lecture 3 hours.)

443. Biological Chemistry Laboratory (3) F, S Cohlberg, Dunne, Perlgut, Wynston
Prerequisites: Chemistry 251, 251L, and 441B (which may be taken concurrently), all with a grade of C or better. Laboratory techniques used in biochemical research. (Lecture 1 hour, laboratory 6 hours.)

447. Clinical Chemistry (3) F, S Berry, Wynston
Prerequisites: Chemistry 251, 251L, and 441A with a grade of C or better. Methods of analysis and chemical properties of blood, urine and other biological materials. Required in medical technology curriculum; not available for credit to majors in the physical sciences. (Lecture 1 hour, laboratory 6 hours.)

448. Fundamentals of Biological Chemistry (3) F, S Berry, Dunne, Cohlberg, Perlgut, Simonsen, Wynston
Prerequisite: Chemistry 327 with a grade of C or better. Major principles of biochemistry including metabolic processes, biological control and regulatory processes, nutrition and chemical energetics and kinetics of animals, plants and microorganisms. Emphasis on major concepts and problem solving. Not open to chemistry majors. Open to majors in the biological sciences only with the consent of the major department and the instructor. (Lecture 3 hours.)

449. Nutritional Biochemistry Laboratory (3) F, S Faculty
Prerequisite: Chemistry 448 with a grade of C or better. Analytical and biochemical analyses of foodstuffs and other compounds of biochemical interest. (Lecture 1 hour, laboratory 6 hours.)

451. Instrumental Methods of Analysis (4) F, S Kalbus, Legg, Lieu
Prerequisites: Chemistry 251, 251L and 371A or 377, all with a grade of C or better, or consent of instructor. Theory and application of instrumental methods to chemical problems. Techniques covered include the following: atomic and molecular absorption and emission, electroanalytical chemistry, techniques of separations, mass spectroscopy, magnetic resonance and other modern methods of analysis. (Lecture 2 hours, laboratory 6 hours.)

461. Scientific Glass Blowing (1) F, S Faculty
Demonstrations and practice in elementary laboratory glass manipulation. Open only to natural science majors. Offered only on credit/no credit basis. (Laboratory 3 hours.)

471. Chemical Thermodynamics (3) F Baine, Becker, Devore, Senozan, Stern
Prerequisites: Chemistry 371A with a grade of C or better and consent of instructor. Mathematical derivation and quantitative application of thermodynamic relationships of particular importance in all fields of chemistry with extensive problem solving to show the application of these relationships. (Lecture 3 hours.)

472. Advanced Physical Chemistry (3) S Baine, Becker, Devore, Senozan, Stern
Prerequisite: Chemistry 371B with a grade of C or better. Topics in physical chemistry, including quantum chemistry and spectroscopy. The mathematical method required by these topics is used to calculate exact solutions to various physiochemical problems.

491. Chemical Literature and Report Writing (2) F, S Faculty
Prerequisites: English 100 or equivalent, Chemistry 321A or 371A with a grade of C or better, Chemistry 499 or 496 must be taken concurrently. Use of the chemical literature and practice in writing technical reports based on literature.

496. Special Problems in Chemistry (1-3) F, S Faculty
Prerequisite: Consent of instructor. Problems selected for considered and mature analysis. May be repeated to a maximum of six units.

499. Directed Reading (1) F, S Faculty
Prerequisite: Concurrent enrollment in Chemistry 491. Thorough survey of the chemical literature on some topic of current interest under the supervision of a faculty member. Preparation of a written report based on this reading. Not open to graduate students.

Graduate Division

522. Special Topics in Organic Chemistry (3)

531. Advances in Inorganic Chemistry (3)

541. Biochemistry of Macromolecules (3)

542. Special Topics in Biochemistry (3)

544. Physical Biochemistry (3)

545. Enzymology (3)

546. Clinical Biochemistry (3)

552. Special Topics in Analytical Chemistry (3)

571. Advanced Thermodynamics (3)

572. Advanced Physical Chemistry (3)

595A. Colloquium in Biochemistry (1)

595B. Colloquium in Organic Chemistry (1)

595C. Colloquium in Analytical, Physical and Inorganic Chemistry (1)

691. Directed Reading (1)

695. Seminar in Chemistry (1)

697. Directed Research (1-3)

698. Research and Thesis (1-6)

Geological Sciences

Department Chair: Dr. Paul J. Fritts.

Professors: Chan, Conrey, Dennis, Ehrreich, Fritts, Grannell, Green, Lumsden, Walker, Winchell.

Academic Advising Coordinators:
Geological Sciences: Dr. Paul J. Fritts.
Earth Science: Dr. Roswitha Grannell.

Geology is the study of the solid earth. Within the broad field of geology students may elect to follow one of several alternative routes: general geology, marine geology, mineralogy-petrology, paleontology-stratigraphy, structural geology.

All earth science and geology majors must obtain a departmental adviser.

The Geological Sciences Department participates in the interdisciplinary Center for Ocean Science Studies. See the School of Natural Sciences section of this *Bulletin* for additional information.

Major in Geology for the Bachelor of Science Degree (code 3-7664)

Lower Division: Geology 102 or 103, 104; Mathematics 117, 122, 123; Chemistry 111A-B; either Biology 216 or a combination of Biology 200 and one of the following: Geology 443, 490g, Biology 437. Additional required courses for the several emphases are listed below.

Upper Division: Geology 320A-B, 321, 322, 330, 341, 342, 372, 423, 441, 448, 449, 472. Additional required courses for the several emphases are listed below.

(1) General Geology

Lower Division: Physics 100A-B.

Upper Division: Geology 450 and 10 units of upper division courses approved by adviser or two units of Geology 495 and nine units of upper division courses approved by adviser.

(2) Marine Geology

Lower Division: Mathematics 224; Physics 151, 152.

Upper Division: Geology 460 and 461 or Chemistry 371A-B; Geology 463, 464, 465, 466.

(3) Mineralogy-petrology

Lower Division: Mathematics 224; Chemistry 251, 251L; Physics 151, 152.

Upper Division: Geology 450, 491; Chemistry 377, 451.

(4) Paleontology-stratigraphy

Lower Division: Physics 100A-B.

Upper Division: Geology 443, 450; three courses selected from Geology 461, 464, 465; Biology 416, 437.

(5) Structural Geology

Lower Division: Mathematics 224; Physics 151, 152.

Upper Division: Geology 450, 460, 490j and four additional units approved by adviser.

Earth Science

Earth science is the interdisciplinary study of materials, energy and resources in four areas: (1) the solid earth and its interior, (2) the atmosphere, (3) the hydrosphere, (4) the earth's environment in space and time. The objectives are to offer an interdisciplinary curriculum to fill the need for the training of secondary teachers in earth science, to offer a degree program which will provide an avenue in science with sufficient elective choice to encourage both a strong major and minor program in science and to make available a science degree valuable as a base for more intelligent appraisal of scientific environment, natural resources, land use, pollution and other areas of critical importance in today's world.

Major in Earth Science for the Bachelor of Science Degree (code 3-7663)

Lower Division: Geology 102 or 103, 104, 140; Astronomy 100; Biology 200; Chemistry 111A-B; Mathematics 117; Physics 100A-B.

Upper Division: Geology 306 (three units), 310, 320A-B, 331, 430, 463, 465; Geography 444 and one additional course in geology approved by adviser.

Minor in Geology (code 0-7664)

Twenty units which must include:

Lower Division: Geology 102 or 103, 104, 140.

Upper Division: Nine units of geology.

Master of Science Degree in Geology

A program of study leading to the master of science degree in geology is offered. The Geological Sciences Department is one of three departments in The California State University and Colleges system in Southern California which offers courses leading to the master of science in geology. The three universities in the joint program are California State University, Los Angeles; California State University, Northridge and California State University, Long Beach. For detailed information concerning requirements see the *Graduate Bulletin.*

Lower Division

100. Introductory Geology (3) F, S Faculty
Elementary study of the earth, particularly the structure, composition, origin, distribution and modification of earth materials. Laboratory study of earth materials. Offered in a personalized instruction (Keller Plan) format. Not open to students with credit in Geology 102 or 103. (Lecture 2 hours, laboratory 3 hours.)

102. General Geology (3) F, S Faculty
Elementary study of the earth, particularly the structure, composition, distribution and modification of earth materials. (Lecture, demonstration.) Not open to students with credit in Geology 100 or 103.

103. Introductory Geology (2) F, S Faculty
Prerequisite: Concurrent enrollment in Geology 104 or 105. Elementary study of the earth, particularly the structure, composition, origin, distribution and modification of earth materials. Not open to students with credit in Geology 100 or 102.

104. Geology Laboratory (1) F, S Faculty
Prerequisite: Concurrent or prior enrollment in Geology 102 or 103. Laboratory study of earth materials. (Laboratory 3 hours.)

105. Geology Field Laboratory (1) F, S Faculty
Prerequisite: Concurrent or prior enrollment in Geology 102 or 103. Field trips to areas of geologic significance and field study of earth materials. May be repeated for credit with consent of instructor to a maximum of 3 units. (Field trips, 6 days per unit.)

140. Historical Geology (3) F Fritts, Lumsden
Prerequisite: Geology 104. History of the earth and evolution of plants and animals. Not open to students with credit in Geology 101. (Lecture 2 hours, laboratory 3 hours, field trips.)

160. Introduction to Oceanography (3) F, S Faculty
Origin and extent of the oceans; nature of the ocean floor, cause and effect of currents, tides and waves; and life in the sea. (Lecture, discussion.)

163. Science of the Atmosphere and Weather (3) F, S Chan, Walker
Introduction to the physical and chemical processes of the atmosphere, science of weather and weather disturbances. Emphasis on understanding the atmospheric environment rather than technical calculations.

190. Environmental Geology (3) F, S Grannell
Interrelationships of man and landslides, floods, erosion, subsidence, volcanism, earthquakes and seismic sea waves. Case histories will be discussed.

191. Air and Water Pollution (3) F, S Chan, Walker
Survey course dealing with the causes and nature of pollution of the air, fresh water lakes and streams and the ocean. Effects of pollution on man's environment.

Upper Division

305. Resources and Man (4) F Dennis
Occurrence and setting of non-renewable resources: ore deposits, fuels and water. Extraction and conservation. Demand for resources: economic and population growth, technology, pollution control, recycling, imports and exports. Taxation and government regulation of mineral industries. (Same course as Economics 305.)

306. Field Geology Laboratory (1-3) F, S Faculty
Prerequisites: Five units in geology including one course in physical geology. Study of earth materials and processes at selected field localities. Elementary study of common rocks and minerals will accompany an introduction to glaciation, river erosion, desert activity, oceanic processes and structural geology. Minimum of six days in the field for each unit of credit.

310. Life of the Past (3) F, S Lumsden
Prerequisite: High school biology; not open to majors in geology. A history of life as obtained through study of the fossil record and the relating of evolution, stratigraphy and paleoecology to this record.

320A-B. Introductory Mineralogy and Petrology (2,2) F Ehrreich, Winchell
Prerequisite: Chemistry 111A or consent of instructor. Classification, origin and association of common minerals and rocks. Macroscopic study of minerals and rocks by physicochemical methods in the laboratory. Ordinarily, the student is expected to register for parts A and B concurrently; however, part B (petrology) may be taken separately with consent of the instructor provided the student already has equivalent credit in part A from an acceptable course in mineralogy. Part A comprises the first half of the course and part B begins at mid-term. (Lecture 2 hours, laboratory 6 hours, field trips.)

321. Optical Crystallography (4) S Ehrreich
Prerequisites: Geology 320A-B, 322 and Mathematics 122, or upper division standing in chemistry or physics. Optical properties of crystals. Laboratory study of crystals in immersion liquids and thin sections with polarizing microscope. Not open to students with credit in Geology 421. (Lecture 2 hours, laboratory 6 hours.)

322. Crystallography and Mineralogy (3) F Winchell
Prerequisites: Chemistry 111A and trigonometry; corequisite: Geology 320. Introduction to morphological and structural crystallography, and their application to physical and chemical properties of crystal chemistry and paragenesis of minerals. (Lecture 2 hours, laboratory 3 hours, field trips.)

330. Structural Geology (3) S Dennis
Prerequisites: Geology 320A-B, 372, Physics 100A or 151, Mathematics 117 or consent of instructor. Deformation of earth's crust, fracturing, folding and flow of rocks; graphic solutions of structural problems, structure from geological maps and other geological records. (Lecture 2 hours, laboratory 3 hours, field trips.)

331. Geomorphology (3) F Conrey
Prerequisite: Geology 102 or 104 or 370. Nature, evolution and classification of land forms; physiographic provinces of U.S.A. (Lecture 2 hours, discussion session 2 hours, field trips.)

341. Principles of Paleontology (4) F Lumsden
Prerequisites: Geology 104 and either Biology 200 or 216. Morphologic, systematic, and ecologic aspects of invertebrate fossils; uses of fossils in stratigraphic work. (Lecture 2 hours, laboratory 6 hours, field trips.)

342. Sedimentary Rocks (3) S Conrey
Prerequisites: Geology 104 or 370, Geology 320A-B. Methods of analysis; description and classification of, and processes involved in, the formation of sedimentary rocks. (Lecture 1 hour, laboratory 3 hours, field trips 5-6 days.)

370. Engineering Geology (2) F, S Fritts
Prerequisites: Mechanical Engineering 172, Civil Engineering 225. Earth processes and materials which influence the design, construction and operation of engineering works; construction materials. Not open for credit to geology majors. (Lecture 2 hours, field trips.)

372. Graphical Methods in Geology (2) F Fritts
Prerequisites: Geology 104, Mathematics 101 or high school trigonometry. Introduction to graphical solutions of problems in structural geology and stratigraphy. (Lecture 1 hour, laboratory 3 hours, field trips.)

423. Igneous and Metamorphic Petrology (4) F Ehrreich
Prerequisites: Chemistry 111B and Geology 321. Characteristics, origins, modes of occurrence and nomenclature of igneous and metamorphic rocks. Laboratory is coordinated macroscopic and microscopic study of rocks. (Lecture 2 hours, laboratory 6 hours, field trips.)

430. Solid Earth Processes (3) S Dennis, Grannell
Geometry and origin of folded and faulted rocks; regional structural geology; physics and chemistry of the earth's interior; effect of mantle and core processes on the crust. Not open for credit to geology majors. (Lecture 2 hours, laboratory 3 hours.)

441. Principles of Stratigraphy (3) F Fritts, Walker
Prerequisites: Geology 321, 330, 341, 342. Occurrence, lithology, fossil content, succession and mutual relations of rocks and their classification. (Lecture 2 hours, laboratory 3 hours, field trips.)

443. Micropaleontology (3) S Fritts
Prerequisites: Geology 104, 341; or upper division standing in biology with consent of instructor. Morphology, taxonomy and ecology of microfaunas; biostratigraphy. (Lecture 2 hours, laboratory 3 hours, field trips.)

448. Geological Surveying (2) F Fritts
Prerequisites: Geology 330, 372 and 441 (may be taken concurrently). Principles of geological surveying with emphasis on the plane table; application of surveying techniques to field mapping of geological structures; determination of true thickness of strata. (Lecture 1 hour, laboratory 3 hours, field trips.)

449. Field Geology (3) S Faculty
Prerequisites: Geology 423, 441, 448. Geologic mapping; interpretation of geologic maps and aerial photographs; preparation of geologic illustrations. (Laboratory 3 hours, field trips 8-5 Saturdays.)

450. Advanced Field Geology (6) SS Faculty
Prerequisites: Geology 330, 449. Six weeks of geological mapping at a selected area. Preparation of a geological report of the field problem which is to be turned in to the instructor not later than two weeks following the completion of the field work. (Lectures as needed, field 6 days per week, 8-5.)

460. Introduction to Geophysics (3) F Grannell
Prerequisites: Physics 100B, Mathematics 122. Introduction to geophysics; principles and processes; methods of investigation. (Lecture 2 hours, laboratory 3 hours, field trips.)

461. Introduction to Geochemistry (3) F Walker
Prerequisites: Chemistry 111B, Mathematics 123. Abundance, migration and concentration of the elements in the earth; chemical processes in the evolution of the earth and its crust. (Lecture 2 hours, laboratory 3 hours, field trips.)

463. General Meteorology (3) S Chan
Prerequisite: Physics 100B or Geology 163 or Geography 444 or consent of instructor. Composition, structure, and circulation of the atmosphere, including elementary theory of storms and other weather disturbances, meteorological instruments and observations. (Lecture 3 hours, field trips.)

464. Geological Oceanography (3) S Conrey
Prerequisites: Geology 102 or 103 or 370; Geology 160 or 465 or Mechanical Engineering 434; Chemistry 111B and Physics 100B. Sediments, topography and structure of the ocean floor; sedimentary processes as they affect the shore, continental shelf and ocean basins. (Lecture 2 hours, laboratory 3 hours, 2 day field trip.)

465. Physical and Chemical Oceanography (3) F, S Chan
Prerequisites: Chemistry 111B, Physics 100B. Physical and chemical oceanography; the carbonate cycle; minor elements and micronutrient elements in sea water; water masses of the oceans; the physical concepts and interpretative theories related to ocean circulation. Not open to students with credit in Geology 462. (Lecture 3 hours.)

466. Oceanography Laboratory and Ocean Studies (1) F, S Chan
Prerequisite: Concurrent or prior enrollment in Geology 465. Instruments and techniques in physical and chemical oceanography; sea trips to areas of oceanographic significance, water quality analysis and interpretation of oceanographic data. Not open to students with credit in Geology 462. (Laboratory 3 hours, sea trips.)

471. Petroleum Geology (2) On demand Fritts, Walker
Prerequisite: Geology 330. Application of geology to the exploration and production of petroleum; includes use of both surface and sub-surface geologic methods. (Lecture 1 hour, laboratory 3 hours, field trips.)

472. Regional Geology of North America (3) S Fritts
Prerequisite: Geology 441. Regional stratigraphy, structure and geologic history of major provinces of North America, including theoretical concepts of the origin of these features. (Lecture 2 hours, discussion session 2 hours, field trips.)

490. Current Topics in Geological Sciences (1-3) F, S Faculty
Prerequisite: Consent of instructor. Topics of current interest in the geological sciences selected for intensive development. Topics to be selected from such areas as (a) Geochronology, (b) Ground water geology, (c) Microscopic sedimentary petrography, (f) Aerial photo interpretation, (g) Paleoecology, (h) Statistical methods in geology, (i) Planetary geology, (j) Tectonics, (k) Economic mineral deposits, (m) Volcanology, (n) Carbonate petrology. May be repeated for a maximum of 6 units. (Field trips may be required.)

491. X-ray Crystallography (3) S Winchell
Prerequisite: Geology 322 or equivalent or consent of instructor. Theory of x-ray diffraction and its application to the analysis and identification of crystalline phases. Not open to students with credit in Geology 490d. (Lecture 2 hours, laboratory 3 hours.)

495. Current Developments in Geological Research (1) F, S Faculty
Current ideas in geological research presented by faculty and guest lecturers. Students will be graded on a credit/no credit basis on such criteria as participation in the discussions. May be repeated up to two units.

496. Investigations in Geology and Other Earth Sciences (1-4) F, S Faculty
Prerequisites: Senior standing in geology, earth science or related fields, completion of an upper division course in geology or earth science in the area of the topics chosen and approval of the topic chosen by the geology faculty. Supervised research in geology or the other earth sciences. (Field trips may be required.)

Graduate Division

510. Advanced Paleontology (3)

515. Advanced Micropaleontology (3)

520. Advanced Stratigraphic Analysis (3)

530. Seminar in Structural Geology and Tectonics (3)

540. Advanced Igneous Petrology (3)

541. Advanced Metamorphic Petrology (3)

545. Rock Mechanics in Engineering Practice (3)

550. Advanced Crystal Chemistry (3)

555. Advanced Geochemistry (3)

562. Chemical Oceanography (3)

564. Advanced Marine Geology (3)

570. Special Topics in Geology (1-3)

581. Seminar in Engineering Geology (3)

697. Directed Research (1-3)

698. Thesis (1-6)

Microbiology

Department Chair: Dr. Frank E. Swatek.

Professors: Anselmo, Carlberg, Fung, Kazan, Kim, Raj, Russell, Swatek.

Assistant Professor: Itatani.

Lecturers: Ascher, Brosbe, Buggs.

Academic Advising Coordinator: Dr. Frank E. Swatek.

The curricula in microbiology leading to a bachelor of science degree are designed to satisfy the needs of four basic groups: (1) the general microbiology degree is of a broad nature and is designed to meet the needs of those preparing for careers in medical or industrial research, industry, public or private laboratories or graduate study; (2) laboratory technology—to give the student background and specific instruction in this area. This study is designed to qualify the student for field work and State license.* This type of career offers opportunities in hospitals, city, county, state and national public health and private laboratories; (3) the pre-professional option is one designed to prepare the student for medical, dental, pharmacy or veterinary school; and (4) a major in microbiology can also be utilized for a junior college credential when taken in conjunction with the proper education courses.

All four patterns have basic courses in common. A program desired in any of the four can be arranged through counseling by advisers in the department.

Major in Microbiology for the Bachelor of Science Degree

General Microbiology Option (code 3-7654)

Lower Division: Chemistry 111A-B, 251, 251L; Mathematics 102 or 115S; Physics 100A-B; Microbiology 210; Biology 216.

Upper Division: Biology 342; English 317**; and a minimum of 36 units including the following: Microbiology 320, 330, 360, 452, 471; Microbiology 450, 451, or Biology 370; Chemistry 327, 441A-B; and a minimum of 6 units in microbiology to be selected in consultation with the major adviser from upper division microbiology courses.

* Clinical Laboratory Technology, Public Health Microbiology.

** Waived for any student who scores above 52 percentile on the English Proficiency Test or it may be waived by the department for a transfer student with 6 or more units in English composition and who demonstrates high proficiency in grammar as shown by the English Proficiency Test.

Medical Microbiology Option (Laboratory Technology) (code 3-7655)

Lower Division: Chemistry 111A-B, 251, 251L; Mathematics 102 or 115S; Physics 100A-B, Microbiology 210, Biology 216.

Upper Division: Biology 342; English 317**; and a minimum of 36 units including the following: Microbiology 320, 322, 323, 330, 360, 452; Chemistry 327, 447, 441A; and a minimum of 6 units in microbiology to be selected in consultation with the major adviser from upper division microbiology courses.

Preprofessional Microbiology Option (pre-medical, pre-dental, pre-pharmacy, pre-veterinary):

The preprofessional option follows either the general microbiology or the medical microbiology options.

The elective units are selected (in consultation with the major adviser) to satisfy the specific course requirements of the professional school to which the student seeks admission.

Minor in Microbiology (code 0-7654)

A minimum of 21 units which must include:

Lower Division: Microbiology 210, 211.

Upper Division: Microbiology 320, 330, 471 and any one of the following four unit sequences: (a) Microbiology 322 and 496 or (b) 360 or (c) 452 and 453.

Master of Public Health Degree

Master of Science Degree in Microbiology

Programs of study leading to the master of public health degree and the master of science degree in microbiology are offered. For detailed information concerning requirements see the *Graduate Bulletin.*

Lower Division

100. Microbiology (3) F, S Faculty
Life processes and roles of micro-organisms in ecological systems; emphasis on harmful and beneficial interrelationships with man and his environment. Not open for credit to majors in microbiology. (Lecture-demonstration 3 hours.)

101. Man and Disease (3) F, S Faculty
Cause and prevention of the common diseases of man. Not open for credit to majors in Microbiology. (Lecture 3 hours.)

210. General Microbiology (4) F, S Swatek
Prerequisites: Biology 200 or 216 and Chemistry 111B. Introduction to micro-organisms, their morphology, metabolism and cultural characteristics. (Lecture 2 hours, laboratory 6 hours.)

** Waived for any student who scores above 52 percentile on the English Proficiency Test or it may be waived by the department for a transfer student with 6 or more units in English composition and who demonstrates high proficiency in grammar as shown by the English Proficiency Test.

211. Microbiological Techniques (1-2) F, S Swatek
Prerequisite: Microbiology 210. Experience in preparation of cultural media, sterilizing procedures, tissue techniques, and maintenance of reagents used in microbiological laboratory. (3-6 hours, time arranged.)

Upper Division

320. Medical Bacteriology (5) F, S Anselmo
Prerequisites: Microbiology 210 and Chemistry 327. Pathogenic bacteria of man and animals; emphasis on isolation and identification of micro-organisms by morphological and cultural characteristics; their reaction to various antibiotics. (Lecture 3 hours, laboratory 6 hours.)

321. Public Health and Pollution (3) F, S Itatani, Kim, Russell
Survey of public health and ecological problems in the community, control of communicable diseases; air, water and soil contamination. Recommended for non-majors interested in ecology and pollution control. (Lecture 3 hours.)

322. Medical Parasitology (3) F, S Kazan
Prerequisites: Six units of biological science including Biology 216, Microbiology 210. Survey of parasitic protozoa and helminths of animals; emphasis on human parasites. Identification of fresh and preserved specimens. (Lecture 2 hours, laboratory 3 hours.)

323. Hematology (3) F, S Ascher, Itatani
Prerequisites: Six units of biological science, Microbiology 210. Physiology and pathology of blood; preparation of blood for counts, hemoglobin determination, and related procedures. (Lecture 2 hours, laboratory 3 hours.)

330. Immunology and Serology (4) F, S Fung
Prerequisites: Microbiology 320, Chemistry 327 or consent of instructor. Principles of immunity, immune response in vivo and in vitro, immunohematology, forensic serology, syphilis serology, and the principles and uses of serologic methods for the qualitative and quantitative evaluation of the immune response. (Lecture 2 hours, laboratory 6 hours.)

340. Microbial Taxonomy (3) F Faculty
Prerequisites: Microbiology 210, Chemistry 327. Principles and theories of naming organisms. Advanced laboratory procedures in differentiation of micro-organisms. (Lecture 1 hour, laboratory 6 hours.)

345. Pathobiology (2) F, S Kazan
Prerequisites: Biology 208, 209; Chemistry 300; Microbiology 210; Nursing 250 or admission to R.N. program. Introduction to the pathological processes in man, including host-parasite relationships, cellular changes, inflamation, immunological responses, neoplasm, genetically determined biological variations, degenerative diseases and the aging process. Not open to students with credit in Microbiology 361 or Nursing 361. Not open to microbiology majors. (Lecture, demonstration 2 hours.)

360. Medical Mycology (4) F, S Swatek
Prerequisites: Microbiology 210, 320, Chemistry 327. Introduction to pathogenic fungi commonly responsible for mycotic infections of man. (Lecture 2 hour, laboratory 6 hours.)

361. Control of Disease Patterns in the Community (3) S Kazan
Principles of epidemiology and their application to health; fundamentals of biomedical statistics; basic factors in classic epidemiological studies and the prevention and control of infectious and non-infectious diseases.

412. Laboratory Techniques (2) F, S Faculty
Prerequisite: Consent of instructor. Experience for advanced students in organization and techniques of a microbiology laboratory. (Conference 1 hour, laboratory 3 hours.)

424. Advanced Hematology (3) F, S Ascher, Faculty
Prerequisites: Medical technology license or a "B" or better in Microbiology 323. Investigation into blood cell formation in bone marrow and the reticuloendothelium system. Response of these cells to disease processes. (Lecture and demonstration 3 hours.)

425. Public Health Microbiology and Diagnostic Procedures (2) F, S Russell
Prerequisites: Microbiology 320 and concurrent enrollment in either Microbiology 426 or 427. Diagnostic procedures for bacterial, mycobacterial, spirochaetal, viral and rickettsial agents of public health importance. Standard methods for the examination of food, water and dairy products. (Lecture 2 hours.)

426. Laboratory Methods in Public Health Microbiology (2) F, S Russell
Prerequisite: Concurrent enrollment in Microbiology 425. Laboratory course for studying diagnostic procedures for infectious agents of public health importance and examination of food, water and dairy products. (Laboratory 6 hours.)

427. Public Health and Diagnostic Procedures Laboratory (2) F, S Russell
Prerequisite: Concurrent enrollment in Microbiology 425. Laboratory course in the techniques for studying those microbes involved in hospital and other institutionally acquired infections. Not available for credit for microbiology majors. (Laboratory 6 hours.)

431. Principles of Immunobiology (3) S Fung
Prerequisites: Microbiology 330, Chemistry 441A-B, consent of instructor. Integrated biological and chemical consideration of immunology. Host-parasite-relationships and immune response of antigens and antibodies, their physical, chemical and biological properties and the mechanisms, dynamics and kinetics of the antigen-antibody reaction. (Lecture 1 hour, laboratory 6 hours.)

441. Marine Microbiology (3) F, S Faculty
Prerequisites: Microbiology 210, Chemistry 441A or consent of instructor. Survey of the interaction of micro-organisms in the sea. Emphasis on elements, cycles and metabolic conversion of environmental materials. (Lecture 1 hour, laboratory 6 hours.)

450. Microbial Genetics (2) F, S Carlberg
Prerequisites: Microbiology 210, Chemistry 441A, consent of instructor. Biochemical and cytological bases of microbial genetics; nature, replication, modification and transfer of genetic material. (Lecture 2 hours.)

451. Microbial Genetics Laboratory (2) F, S Carlberg
Prerequisites: Microbiology 450 (may be taken concurrently), consent of instructor. Laboratory study of microbial genetics. (Laboratory 6 hours.)

452. Viruses (2) F, S Faculty
Prerequisites: Microbiology 210, Chemistry 327. Consideration of principles in virus diseases of man and animals; virus-cell interactions. (Lecture 2 hours.)

453. Virology Laboratory (2) F, S Faculty
Prerequisites: Microbiology 320, 452 (may be taken concurrently), consent of instructor. Laboratory study of the bacterial and animal viruses. Techniques for growth, titration of infectious units, cytopathological changes produced by the viruses. Physical and chemical prospectus of the viruses studied. (Laboratory 6 hours.)

461. Mycology (3) F, S Faculty
Prerequisite: Microbiology 210 or Biology 211. Structural development and classification of the important genera and species of fungi. (Lecture 2 hours, laboratory 3 hours.)

470. Bacterial Anatomy and Cytochemistry (3) F, S Raj
Prerequisites: Microbiology 320, Chemistry 441A (may be taken concurrently). Morphogenesis, fine structure and chemical composition of bacterial cells. (Lecture-demonstration 3 hours.)

471. Bacterial Physiology (3) F, S Raj
Prerequisites: Microbiology 320, Chemistry 441A, consent of instructor. Cellular physiology at the molecular level as related to bacterial growth, reproduction, nutrition, metabolism and ecology. (Lecture 3 hours.)

472. Bacterial Structure and Physiology Laboratory (2) S Raj
Prerequisites: Microbiology 470 or 471, consent of instructor. Laboratory techniques used in the study of bacterial structure and physiology. (Laboratory 6 hours.)

473. Industrial Microbiology (3) F, S Kim
Prerequisites: Microbiology 210, Chemistry 441A or consent of instructor. Role of micro-organisms in selected industrial processes; emphasis on bacteria, yeasts and molds. (Lecture 2 hours, laboratory 3 hours.)

480. Proseminar in Microbiology (2) F, S Faculty
Prerequisites: Senior standing in microbiology, consent of instructor. Faculty and student presentation and analysis of current topics in microbiology.

496. Investigations in Microbiology (1-3) F, S Faculty
Prerequisite: Consent of instructor. Research in a specific subject in microbiological sciences to be approved and directed by a faculty member. The one unit course involves library research. The two and three units courses involve library and experimental research. Special projects may include experience with such techniques as ultracentrifugation, electron microscopy, radio tracers, tissue culture, etc.

Graduate Division

513. History of Microbiology (2)

514. Microbiological Instrumental Methods and Analysis (3)

526. Biochemical Diagnostic Procedures in Microbiology (3)

546. Clinical Diagnosis by Laboratory Methods and Quality Control (4)

550A. Experimental Microbiology: Microbial Ecology (3)

550B. Experimental Microbiology: Immunochemistry (3)

550C. Experimental Microbiology: Microbial Metabolism (3)

550D. Experimental Microbiology: Eumycetes (3)

550E. Experimental Microbiology: Medical Parasites (3)

550F. Experimental Microbiology: Schizomycetes (3)

550G. Experimental Microbiology: Viruses (3)

691. Supervised Independent Study (1-4)

694A,B. Seminar in Principles and Theories of Microbiology (1,1)

695. Seminar in Immunogenetics (2)

696. Field Experience in Medical Laboratory Supervision (2-4)

697. Directed Research (1-3)

698. Thesis (1-6)

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Physics

Department Chair: Dr. John Fredrickson.

Emeritus: Olaf P. Anfinson.

Professors: Appleton, Buchner, Chen, Chow, Fredrickson, George, Hutcherson, Hu, Lerner, Luke, Roberts, Salem, Scalettar, Schultz, Scott, Shen, Yano.

Associate Professors: Alexandrov, Anwar, Ayers, Eliason, Munsee, Schechter, Woollett.

Academic Advising Coordinator: Dr. Lowell J. Eliason.

Major in Physics for the Bachelor of Science Degree (code 3-7668)

The major in physics for the bachelor of science degree is offered for: the student seeking the doctor's degree and the position of professional physicist in the traditional sense, the student seeking a position in an industrial laboratory and the student seeking a career in teaching physics. This major program has been designed with the conviction that a student must first of all be a physicist and must have a program which penetrates the fundamental conceptual bases of physical phenomena, cultivates skill in the design of experiments and their practical execution and stimulates interest in the many means used to interpret the physical world.

Lower Division: English 317 (may be waived for students who achieved a standard score of 24 on the ACT English sub-test or who received an A or B grade in English 100); Physics 151, 152, 153; courses to support the major to include Mathematics 122, 123, 224 and Chemistry 111A-B, and a choice of one course among the following: Biology 200, 210, 212, 216 and Microbiology 210.

Upper Division: Mathematics 370A-B or 364A, 375 and 461; 30 units of upper division physics including Physics 310, 320, 340A-B, 450 and two laboratories chosen from Physics 330, 380, 481, 482, 483, 484, 485, 486. The remaining units are to be chosen from Physics 311, 330, 360, 380, 410, 420, 434, 435, 444, 451, 453, 454, 457, 460, 470, 481, 482, 483, 484, 485, 486, 490, 496.

Major in Physics for the Bachelor of Arts Degree (code 2-7668)

The major in physics for the bachelor of arts degree is offered in the spirit of providing a curriculum devoted to "interpretation of physics and its reintegration with other parts of our culture." A primary purpose is to prepare teachers for secondary school teaching in physics and physical science.

Lower Division: English 317 (may be waived for students who achieved a standard score of 24 on the ACT English sub-test or who received an A or B grade in English 100); Physics 151, 152, 153; Chemistry 111A-B; Mathematics 122, 123, 224; and one course from the following: Biology 200, 210, 212, 216 and Microbiology 210.

Upper Division: A minimum of 24 units of courses selected in consultation with a major adviser. Work must be completed in each of the following fields: physics, chemistry and geology. At least 18 units of this work must be in physics. Candidates for a teaching credential must complete at least six units selected from Geology 103, 460, 461, 463.

Minor in Physics (code 0-7668)

A minimum of 20 units which must include:

Lower Division: Physics 151, 152, 153.

Upper Division: A minimum of eight units which may not include Physics 300 or Physics 305.

Master of Arts Degree in Physics

Master of Science Degree in Physics

Programs of study leading to the master of arts degree in physics and master of science degree in physics with an option in metals physics are offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

100A-B. General Physics (4,4) F, S Faculty
Prerequisite: Mathematics 101 which may be taken concurrently. Physics 100A is a prerequisite for 100B. Year course in the introduction to physics. First semester deals with the properties of matter, mechanics and heat. Second semester deals with electricity, sound, and light. (Lecture 3 hours, laboratory 3 hours.)

101A,B. Physics for the Curious (3,3) F, S Lerner
Prerequisite: Physics 101A: none. 101B: 101A or high school physics or equivalent or consent of instructor. Introductory course for students with a serious interest in understanding the workings of the physical universe. Methodology and philosophical foundations of physics will be stressed. Topics will include the theory of motion, gases, heat, gravitation, electromagnetism and the relativistic and quantum revolutions. If one unit of Physics 103 is taken concurrently with 101A or 101B, the requirements for a laboratory science course will be satisfied. (Lecture 3 hours.)

103. Introduction to Experimentation (1) F, S Munsee
Prerequisite: Physics 100A, 101A, 104 or 110 (may be taken concurrently with these courses). Objective is to give an idea of how an experimentalist operates and a first-hand knowledge and an in-depth feeling for the physics involved in a few situations. The first project is to build a Heathkit oscilloscope. Subsequent projects will be chosen by the student according to his interests. May be taken for up to six units of credit.

104. Survey of General Physics (4) F, S Hutcherson
Prerequisite: One year of high school mathematics. Designed to acquaint the student with the more important aspects of elementary physics. Emphasis on physiological physics, color and sound. Recommended for art, music and physical education majors. (Lecture 3 hours, laboratory 3 hours.)

105. Physics for the Biological Sciences I (4) F, S Faculty
Prerequisite: Mathematics 112 (may be taken concurrently). A non-calculus introduction to physics for students in the biological sciences stressing those principles of physics having current application to a theoretical and experimental approach to biology. Lectures and laboratories are oriented toward an understanding of fundamental physical principles with examples liberally drawn from current research literature in the biological sciences. Topics covered include mechanics, energy, properties of matter, fluids and fluid flow, heat and thermodynamics, wave motion and sound. Not open to students with credit in Physics 100A. Not open to students with credit in Physics 105E. (Lecture 3 hours, laboratory 3 hours.)

106. Physics for the Biological Sciences II (4) F, S Faculty
Prerequisites: Mathematics 112, Physics 105. A non-calculus introduction to physics for students in the biological sciences stressing those principles of physics having current application to a theoretical and experimental approach to biology. Lectures and laboratories are oriented toward an understanding of fundamental physical principles with examples liberally drawn from current research literature in the biological sciences. Topics covered include electricity and magnetism, optics, atomic physics and nuclear physics. Not open to students with credit in Physics 100B or Physics 106E. (Lecture 3 hours, laboratory 3 hours.)

151. Mechanics and Heat (4) F, S Faculty
Prerequisite: Mathematics 122. Kinematics, Newton's Laws, rotational motion, fluid statics, laws of thermodynamics. Not open to students with credit in Physics 110. (Lecture 3 hours, laboratory-recitation 3 hours.)

152. Electricity and Magnetism (4) F, S Faculty
Prerequisites: Physics 151, Mathematics 123. Mechanical waves, Coulomb's law, electrostatics, electric circuits, introductory electronics, magnetic fields, induction and Maxwell's equations. Not open to students with credit in Physics 240. (Lecture 3 hours, laboratory 3 hours.)

153. Modern Physics and Light (4) F, S Faculty
Prerequisites: Physics 152, Mathematics 224. Relativity, photoelectric effect, quantum theory, Bohr model of the atom, wave mechanics, geometrical optics, interference, diffraction and polarization. Not open to students with credit in Physics 230. (Lecture 3 hours, laboratory 3 hours.)

261. Elementary Mathematical Physics I (1) S Appleton, Chen
Prerequisites: Physics 153, Mathematics 224. Physical interpretation of the solution of the second order linear differential equation applied to various physics problems. Emphasis on interpretation of the solution rather than on mathematical analysis. (Lecture-discussion 3 hours—first third of semester.)

262. Elementary Mathematical Physics II (1) S Appleton, Chen
Prerequisites: Physics 153, Mathematics 224. Use of vector analysis in the formulation and solution of physics problems. Emphasis on the interpretation of the results rather than on mathematical analysis. (Lecture-discussion 3 hours—second third of semester.)

263. Elementary Mathematical Physics III (1) S Appleton, Chen
Prerequisites: Physics 153, Mathematics 224. Use of Fourier series, Fourier transforms and Laplace transformations in the solution of physics problems. Emphasis on interpretation of results rather than on mathematical analysis. (Lecture-discussion 3 hours—final third of semester.)

Upper Division

300. Survey of Modern Physics (3) S George, Roberts
Prerequisites: Physics 100B and Mathematics 101. Descriptive course in atomic and nuclear physics and the quantum nature of radiation. Not open for credit to majors in physics. (Lecture 3 hours.)

310. Mechanics I (3) F Salem, Schultz
Prerequisites: Physics 151, Mathematics 370A (may be taken concurrently). Kinematics and dynamics of mass points and systems of particles. Conservation laws. Harmonic motion. Central force problem. Noninertial frames of reference. Lagrangian and Hamiltonian formulation of the laws of mechanics. Not open to students with credit in Physics 310A. (Lecture 3 hours.)

311. Mechanics II (3) S, 1980 and alternate years Fredrickson, Schultz
Prerequisite: Physics 310. Dynamics of rigid body. Constraints. Inertia tensor. Gyroscopic motion. Deformable media. Waves on strings and in fluids. Variational methods. Non-linear mechanics. Not open to students with credit in Physics 310B. (Lecture 3 hours.)

320. Thermodynamics and Kinetic Theory (3) S Eliason, Roberts
Prerequisites: Physics 153 and Mathematics 224. Equations of state and thermodynamic functions. First and Second Laws. Introduction to kinetic theory and statistical mechanics. (Lecture 3 hours.)

330. Experimental Optics and Spectroscopy (3) S George
Prerequisite: Physics 153. Interference, diffraction, polarization and elementary spectroscopy. (Lecture 2 hours, laboratory 3 hours.)

340A-B. Electricity and Magnetism (3,3) S, F Appleton, Ayers
Prerequisites: Physics 310, Mathematics 370A. Laws of electricity and magnetism in vector analytic form and the formulation of Maxwell's equations. Application of Maxwell's equations to radiation problems and the interaction of electromagnetic waves and matter. Physics 340A is not open to students with credit in Physics 340; 340B is not open to students with credit in Physics 440. (Lecture-discussion 3 hours.)

360. Numerical Methods in Physics (3) F Luke, Scott
Prerequisite: Mathematics 370A (may be taken concurrently). Techniques of solving physics problems requiring numerical or graphical analysis. Computer methods. Problems selected from optics, electrostatics, mechanics, relativity. Not open to students with credit in Mathematics 323. (Lecture-discussion 3 hours.)

380. Fundamentals of Electronics (3) F Eliason, Hutcherson
Prerequisite: Physics 152. Electronic phenomena in vacuum and solids applied to electron device structures; circuit models of electron tubes and transistors. Fundamental electronic circuits. (Lecture 2 hours, laboratory 3 hours.)

406. Laboratory Techniques (1-2) F, S Eliason
Prerequisite: Previous enrollment in a lower division physics course comparable to the one to which the student will be assigned. There will be regular formal lectures for this course. May be repeated to a maximum of four units of credit.

410. Relativity (3) F, 1978 and alternate years Scalettar, Shen
Prerequisites: Physics 340A, Mathematics 370B. The Lorentz transformation, 4-vectors, relativistic kinematics, electromagnetic fields and introduction to general relativity and cosmology. Application to classical and modern physics. (Lecture-discussion 3 hours.)

420. Statistical Physics (3) S, 1979 and alternate years Lerner, Munsee
Prerequisite: Physics 450. Fundamental hypotheses of statistical mechanics. Applications include classical and quantum gases, electric and magnetic systems, fluctuations and condensation.

434. Astrophysics (3) F, 1979 and alternate years Alexandrov, Shen
Prerequisite: Senior standing in physics or consent of instructor. Review of observational data of astronomy, elementary theory of stellar structure, model stellar calculation and simple stellar systems. (Lecture 3 hours.)

435. Theoretical Astrophysics (3) S, 1980 and alternate years Alexandrov, Shen
Prerequisite: Senior standing in physics and Physics 434 or consent of instructor.

444. Plasma Physics (3) S, 1980 and alternate years Buchner, Woollett
Prerequisites: Physics 320, 340A. Characteristic behavior of high temperature plasma. Particle trajectories, two-fluid and hydromagnetic models, waves, instabilities and transport processes. Applications to astrophysical, geophysical and laboratory plasmas.

450. Quantum Mechanics (3) F Hu, Scalettar
Prerequisites: Physics 310, Mathematics 370B or 460B. Basics of quantum mechanics with emphasis on one-dimensional examples. Schroedinger's equation, Hermitian operators, superposition principle, indeterminacy, simple potential barriers and wells, angular momentum, hydrogen atom. Not open to students with credit in Physics 450A. (Lecture-discussion 3 hours.)

451. Applications of Quantum Mechanics (3) S, 1980 and alternate years Salem, Scott
Prerequisite: Physics 450. Topics indicating the application of quantum mechanics. Several topics will be discussed such as spin, perturbation theory, molecular quantum mechanics, scattering, Kronig-Penney model, idential particles. Occasionally fewer topics may be selected for more thorough analysis. Not open to students with credit in Physics 450B. (Lecture-discussion 3 hours.)

453. Nuclear Reactor Theory (3) S, 1979 and alternate years Chow, Luke
Prerequisites: Physics 153, Mathematics 370A,B. Binding, decay and fusion of the nucleus. Interaction, moderation and diffusion of neutrons. Chain reactions and reactor constants. Steady-state solution of the diffusion equation for simple reactor systems. (Lecture 3 hours.)

454. Elementary Particle Physics (3) S, 1979 and alternate years Scalettar, Woollett
Prerequisite: Physics 450. Particle detectors and accelerators; ionization and radiation energy loss; invariance principles, conservation laws, particle properties, elementary scattering theory; weak, electromagnetic and strong interactions; particle models. (Lecture-discussion 3 hours.)

457. Biophysics (3) F Alexandrov
Prerequisites: Upper division standing and consent of instructor. Selected topics in the physics of biological systems. Conduction of neuro-impulses. Interaction of radiation with living matter. Application of information theory to macromolecular organization and neural coding. (Lecture 3 hours.)

460. Intermediate Mathematical Physics (3) F Roberts
Prerequisites: Physics 310, 340A. Partial differential equations of physics. Calculus of variations. (Lecture 3 hours.)

470. Introduction to Solid State Physics (3) S Fredrickson, Schechter
Prerequisite: Physics 450. Study of the properties of solids from a quantumtheoretical viewpoint. Topics include lattice vibrations, elastic constants, and thermal, electric and magnetic properties. (Lecture 3 hours.)

481. Quantum Physics Laboratory (2) F Ayers, Munsee
Prerequisite: Physics 450 (may be taken concurrently). Selected experiments illustrating quantum mechanical effects. Not open to students with credit in Physics 451A. (Lecture 1 hour, laboratory 3 hours.)

482. Nuclear Physics Laboratory (2) S Chen, Chow
Prerequisite: Physics 450. Selected experiments in nuclear physics. Not open to students with credit in Physics 451B. (Lecture 1 hour, laboratory 3 hours.)

483. Experimental Physics-Spectroscopy (2) F, 1979 and alternate years Fredrickson, George
Prerequisite: Physics 330 or consent of instructor. Selected advanced experiments in atomic spectroscopy in the vacuum ultraviolet, visible and infrared regions covering the range from nanometers to four micrometers. (Lecture 1 hour, laboratory 3 hours.)

484. Experimental Physics-Plasma (2) F, 1978 and alternate years Buchner
Prerequisite: Physics 153. Introduction to plasma research. Confinement schemes, measurement of temperature, density and confinement times. Vacuum and materials technology. (Lecture 1 hour, laboratory-demonstration 3 hours.)

485. Experimental Physics-Solid State (2) S, 1980 and alternate years Ayers, Hutcherson
Prerequisite: Physics 470 (may be taken concurrently). Introduction to experimental techniques for investigating the crystal structures and electric, magnetic and thermal properties of metals and semiconductors. (Lecture 1 hour, laboratory 3 hours.)

486. Experimental Physics-Radiation (2) S, 1979 and alternate years Chow
Prerequisite: Consent of instructor. Interaction of gamma rays with matter. X-ray techniques. Charged particle range and energy loss. Radiation detectors. Neutron production and detection. (Lecture 1 hour, laboratory-demonstration and/or special project 3 hours.)

490. Special Topics in Physics (3) F, S Faculty
Prerequisite: Consent of instructor. Topics of interest in physics selected for intensive development. Topics to be selected from such areas as atomic and nuclear physics, astro-physics, physics of materials, low temperature physics, acoustics and theoretical physics. Both undergraduate and graduate students may take the course for a maximum of 6 units of credit. (Lecture 3 hours.)

494. History of Science: Selected Topics (3) S Lerner
Interdisciplinary introduction to the history of science for scientists and nonscientists. Evolution of the scientist's view of the means and ends of his own activities; the two-way interactions of these views with more general contemporary ideas and attitudes. May be repeated with consent of instructor up to a maximum of six units. (Same course as History 494.)

496. Special Problems in Physics (1-3) F, S Faculty
Prerequisites: Consent of instructor and senior standing. Problems in physics. Problems selected by instructor for considered and mature analysis. May be repeated for credit to a maximum of 4 units.

Graduate Division

500. Research Methods (1)

501A,B. Electrodynamics and Thermodynamics of Solids (3,3)

502A,B. Physics of Metals and Semiconductors (3,3)

503A,B. Directed Laboratory in Metals Physics (1,1)

510. Graduate Mechanics (4)

540A,B. Graduate Electricity and Magnetism and Electrodynamics (4,3)

544. Advanced Plasma Physics (3)

550A,B. Quantum Mechanics (4,3)

551A,B. Quantum Electronics and Laser Physics (3,3)

554A,B. Nuclear Physics (3,3)

560A,B. Methods of Mathematical Physics (4,3)

570. Solid State Physics (3)

574. Semiconductor Physics (3)

694. Seminar in Special Topics (1)

695. Colloquium (1)

697. Directed Research (1-3)

698. Thesis (1-6)

Astronomy

Lower Division

100. Astronomy (3) F, S Luke, Schultz
Introductory course in astronomy. The earth moon system and the planets, the stars and their constitution. Survey of the methods of astronomical observation.

101. Astronomy II (3) F, S Schultz
Prerequisite: Astronomy 100. A descriptive and observational study of the 100 finest deep sky objects. Each semester 30 or 40 of these objects are well placed for viewing. These objects will be discussed in a lecture as examples of the variety of celestial objects, and they will also be studied in color photographs taken by students on field trips. The field trips, most of them overnight to local campgrounds, are optional but strongly recommended. (Lecture 2 hours, laboratory 3 hours.)

200A,B. Introduction to Astronomy and Astrophysics (3,3) F, S Luke, Schultz
Prerequisite: Mathematics 101 (may be taken concurrently). Newton's Laws and gravitation, the earth and the solar system, atomic radiation, spectra of stars, stellar population, stellar clusters, the galaxy and cosmology. (Lecture-discussion 3 hours.)

Upper Division

304. Observational Astronomy (1) On demand Faculty
Prerequisite: Astronomy 200A (may be taken concurrently). Techniques and instruments of visual observation and photography of celestial objects. (Laboratory 3 hours.) Course may be repeated for a maximum of two units.

Physical Science

Lower Division

100. Man and Energy (3) F, S Woollett
Analysis of energy resources available to man and the relation to the survival of civilization. Emphasizes a conceptual understanding of the physical basis for the existence of different kinds of energy, means of energy conversion and power production. Especially recommended for the non-science major. (Lecture-discussion 3 hours.)

102. Sound and Music (3) F, S Ayers, Hutcherson
Nonmathematical exploration, through lectures, discussion and laboratory demonstrations, of the natural phenomena used to produce musical sounds. Scales in the history of music, harmonics and quality of sound, sound propagation in media, musical instruments and acoustical structures, synthesizers and electronic music.

103. Laboratory in Sound and Music (1) F, S Ayers, Hutcherson
Prerequisite: Physical Science 102 (may be taken concurrently). Detailed examination of resonance phenomena in simple mechanical systems and musically interesting systems. Introduction to basic electronic instruments used for the analysis and synthesis of sound. Examination of some of the physical aspects of the hearing process. (Laboratory 3 hours.)

108. Scientific and Humanistic Thought (3) F Gosselin, Lerner
Physics and history are used as examples of a scientific and a humanistic field respectively, and a critical inquiry is made into the likenesses and contrasts between these central intellectual modes. Same course as History 108.

112. Introduction to the Physical Sciences (3) F, S Fredrickson
Selected processes which illustrate some of the basic principles used by scientists to interpret modern ideas of matter and energy in the physical universe. Students with a full year course in high school physics or chemistry should elect some other lower division course in chemistry, geology or physics. Not open for credit to majors in any of the physical sciences. (Lecture 2 hours, laboratory 3 hours.)

113. Physical Science (3) F, S Fredrickson
Introductory course in the physical sciences. Energy, time and materials involved in the processes of everyday happenings on the earth and in the universe. (Lecture-discussion 3 hours.) Not open to students with credit in Physical Science 112 or to majors in any of the physical sciences.

Upper Division

331. Light, Lasers and the Visual Image (3) F George
Nonmathematical course that describes light, its behavior and applications. Emphasis on image formation, optical instruments, science of color, lasers, holography and analysis of light for elements, planets and stars. Colorful demonstrations using lasers and holograms including kinetic art. Recommended for art and other non-science majors. (Lecture-demonstration 3 hours.)

491. Musical Acoustics (3) S Ayers
Prerequisite: Physical Science 102 or consent of instructor. Nature and propagation of sound; acoustics of musical instruments; tuning and temperament; behavior of sound in enclosed spaces; acoustical aspects of sound recording and reproduction. Same course as Music 491. (Lecture 3 hours.)

School of Social and Behavioral Sciences

Administrative Officers

Simeon J. Crowther	Dean of the School	Library E-109
Fen Rhodes	Associate Dean Instructional Support	Library E-110
A. Jay Stevens	Associate Dean Educational Policy	Library E-107

Directory of Departments

Department	*Chair*	*Dept. Offices*
Anthropology	Dr. Thomas McCorkle	Psych. 145
Black Studies	Dr. Skyne Uku	Psych. 123
Economics	Dr. J. Richard Powell	SS/PA 361
Geography	Dr. Frederick Scantling	LA4-105
History	Dr. Jack Stuart	FO2-106
Mexican American Studies	Mr. Federico A. Sanchez	FO4-275
Political Science	Dr. Ronald J. Schmidt	SS/PA 257
Psychology	Dr. Raphael M. Hanson	Psych. 100
Social Welfare	Mr. Warren Ponsar	Psych. 112
Sociology	Dr. Glenn Walker	SS/PA 258

Other School Offices

American Indian Studies	Mr. Richard W. Band	FO4-174
Asian American Studies and Asian Languages	Dr. Franklin Odo	FO4-163
Asian Studies	Dr. Charlotte Furth	FO2-213
Community Psychology Clinic	Dr. Victor Benassi	Psych. 206
Computer Studies	Dr. Glenn Walker	SS/PA 207
Human Development	Dr. Norma Bernstein-Tarrow	ED2-257
Latin American Studies	Dr. William Svec	FO2-221
Legal Studies in the Liberal Arts	Dr. Albie Burke	FO2-118
Russian-East European Studies	Dr. George Kacewicz	SS/PA 239
Urban Studies	Dr. Margaret A. Stark	FO2-215
Women's Studies	Dr. Dorothy Abrahamse Dr. Donna Dempster	FO2-219

Anthropology

Department Chair: Dr. Thomas McCorkle.

Emeriti: Ethel E. Ewing, Douglas Osborne, William J. Wallace.

Professors: Dixon, Fenenga, Kershaw, Key, McCone, McCorkle.

Associate Professors: Bates, Gregory, Harman, Libby, Ruyle, Shermis.

Assistant Professor: Eckhardt.

Credential Adviser: Dr. Stewart Shermis.

Academic Advising Coordinator: Dr. James Gregory.

The anthropology program is designed to provide the student with a broad knowledge of the various fields of anthropology as well as an opportunity for emphasis on particular topical or geographic interests. Instruction is planned to meet the needs of those who wish a liberal arts background for teaching and other public service careers as well as to meet the needs of those who wish to pursue advanced degrees leading toward a career in research, advanced teaching or application of anthropological knowledge in such fields as public service, health and welfare programs and foreign service.

Major in Anthropology for the Bachelor of Arts Degree (code 2-8505)

Lower Division: Anthropology 110, 120, 170; recommended, Anthropology 240, Sociology 100.

Upper Division: A minimum of 24 units in anthropology as follows: Anthropology 300, 301; six units of topical courses selected from Anthropology 303, 305, 306, 310, 403, 405, 406, 407, 411, 413, 414, 415, 416, 417, 419, 421, 496; three units of regional courses selected from Anthropology 321, 322, 323, 324, 325, 327, 331, 332, 333, 336, 420; three units of physical anthropology selected from Anthropology 430, 431 or 432; three units of archaeological courses selected from Anthropology 341, 342, 345, 347; and three units of upper division elective courses selected in consultation with an adviser.

Minor in Anthropology (code 0-8505)

The degree minor in anthropology requires a minimum of 20 units and must include:

Lower Division: Anthropology 110, 120.

Upper Division: Three units selected from each of the following combinations: (a) Anthropology 303, 306, 310, 403, 405, 406, 407, 411, 413, 414, 415, 416, 417, 419, 421, 430, 431, 432, 496; (b) Anthropology 300, 321, 322, 323, 324, 325, 327, 331, 332, 333, 336, 420; (c) Anthropology 341, 342, 345, 347; six units of anthropology electives.

Master of Arts Degree in Anthropology

Master of Arts Degree in Linguistics

Programs of study leading to the master of arts degree in anthropology and the interdisciplinary master of arts degree in linguistics are offered. For detailed information concerning requirements see the *Graduate Bulletin.*

Lower Division

100. General Anthropology (3) F, S Faculty
General introduction to the fields of anthropology emphasizing the integration of both the biological and cultural fields of man. Especially recommended for non-majors.

110. Introduction to Physical Anthropology (3) F, S Faculty
Origin and present nature of man; man's relation to other animals, heredity and principles of evolutionary change, fossil evidence of prehistoric man, significance of racial variation in modern man; the origin and adaptive value of cultural behavior.

120. Introduction to Cultural Anthropology (3) F, S Faculty
Nature of culture; a comparative and historical approach to the religion, social organization, subsistence patterns and other aspects of the great variety of cultures around the world.

170. Introduction to Linguistics (3) F, S Key
Nature of language; its structure and processes of change; language universals, contrasts and relationships; emphasis on non-Indo-European languages. Not open to students with credit in Anthropology 270.

240. Introduction to Archaeology (3) F, S Dixon, Fenenga
Contributions of archaeology toward understanding the growth and development of human cultures; survey of world-wide prehistory from the Old Stone Age to the Iron Age.

Upper Division

300. Peoples of the World (3) F, S Harman, Kershaw
Prerequisite: Anthropology 120 or consent of instructor. Cultures representing major world areas and different levels of development; emphasis on the interaction of environment, technology, social system and culture history. Not open to students with credit in Anthropology 230.

301. History of Anthropology (3) F, S Libby
Prerequisite: Anthropology 120 or consent of instructor. Growth of anthropology from the earliest times to the present. Various schools of thought and outstanding contributors and their works will be studied.

303. Social Anthropology (3) S Kershaw, Ruyle
Prerequisite: Anthropology 120 or Sociology 100 or consent of instructor. Introduction to the methods, aims and development of social anthropology. Not open to students with credit in Anthropology 220.

306. Pre-Industrial Technology (3) S Faculty
Recommended: Anthropology 120. Anthropological examination of the techniques used by man living at a less technologically evolved (primitive) level than ourselves, in making and using his tools, weapons, equipment. Stone, bone, wood, ceramics, early metal, weaving and other technologies; their origins and development.

310. Cultural Ecology (3) F Faculty
Examination of mankind's various adaptive strategies through time to the physical and cultural world. This course takes an evolutionary viewpoint of man from his earliest times through the present-day urban milieu.

321. Indians of North America (3) F Fenenga
Prerequisite: Anthropology 120 or consent of instructor. Introduction to the history, physical characteristics and cultures of the Indians north of Mexico.

322. Indians of California (3) S Fenenga
Prerequisite: Anthropology 120 or consent of instructor. Origin, physical characteristics, languages, history and cultures of the Indians of California.

323. Indians of Mexico and Central America (3) F, 1979 and alternate years Harman, McCorkle
Prerequisite: Anthropology 120 or consent of instructor. Cultural background and current economic, social and religious institutions of the Indians of Mexico and Central America.

324. Native Peoples of South America (3) S, 1980 and alternate years Eckhardt, Harman, McCorkle
Prerequisite: Anthropology 120 or consent of instructor. Origin and development of the peoples, technologies and social systems of the native American Indian cultures of South America. Acculturation and roles of native peoples in colonial and recent national contexts.

325. Contemporary Cultures of Latin America (3) F, 1978 and alternate years Harman, McCorkle
Prerequisite: Anthropology 120 or consent of instructor.Descriptive survey of the major Latin American cultural groupings; their conquest and colonial backgrounds and their emerging characteristics, with special attention to folk cultures and their relations to cultural change and national life.

327. Peoples of the Pacific (3) F, 1979 and alternate years Faculty
Prerequisite: Anthropology 120 or consent of instructor. Origins, prehistory, physical characteristics, languages and culture patterns of Oceania; influence of island ecology on the development of cultural patterns; trends in acculturation. Not open to students with credit in Anthropology 346.

331. Native Peoples of the USSR (3) S, 1980 and alternate years Libby
Prerequisite: Anthropology 120 or consent of instructor. Origins, physical characteristics, languages, environmental and historical influences on the development of cultural patterns, traditional cultures and modern development of peoples in the Soviet Union.

332. Cultures of China and East Asia (3) F, 1979 and alternate years Ruyle
Prerequisite: Anthropology 120 or consent of instructor. Development of traditional Chinese culture, its analysis, spread to surrounding areas, and the trends of modernization. Patterns of technology, social organization and configurations.

333. Cultures of India and Southeast Asia (3) S, 1979 and alternate years Faculty
Prerequisite: Anthropology 120 or consent of instructor. Development of traditional Indian culture, its analysis, influence in surrounding areas and the trends of modernization. Patterns of technology, social organization and configurations.

336. Cultures of Africa (3) S, 1979 and alternate years Kershaw
Prerequisite: Anthropology 120 or consent of instructor. Origins, physical characteristics, languages, traditional cultures and acculturation problems of African peoples, south of the Sahara.

341. Prehistoric Cultures of Europe (3) S, 1980 and alternate years Faculty
Prerequisite: Anthropology 120 or 240 or consent of instructor. European archaeology from the earliest Stone Age; varying cultural adaptations to different environments, migrations of peoples, influences from Asia and Africa; problems of culture reconstruction from ancient remains.

342. Early Civilizations of the Old World (3) F, 1978 and alternate years McCone
Prerequisite: Anthropology 120 or 240 or consent of instructor. Interrelated growth of the civilizations of Egypt, Mesopotamia, India and the Mediterranean from agricultural villages to urban centers and empires; the significance of increasing complexity in social organization, technology, art and accumulation of knowledge.

345. Ancient Civilizations of Mexico and Central America (3) S, 1979 and alternate years Dixon
Prerequisite: Anthropology 120 or 240 or consent of instructor. Origin and growth of the Aztec, Maya and other civilizations of Mexico and Central America; brief comparisons are made with the growth of civilizations in South America.

347. Prehistoric Cultures of North America (3) F, 1979 and alternate years Fenenga
Prerequisite: Anthropology 120 or 240 or consent of instructor. Origin, growth and prehistory of American Indian cultures north of Mexico; changing economic patterns through time; development of agriculture and changes in population densities.

402. Quantitative Methods in Anthropology (3) F Bates
Prerequisites: High school mathematics and consent of instructor. Survey of sampling statistics with emphasis on anthropological data. Basic statistical measures, common sampling distributions, tests of hypotheses. Not open to students with credit in Anthropology 302.

403. Political Anthropology (3) S, 1979 and alternate years Gregory, Ruyle
Prerequisite: Anthropology 303 or consent of instructor. Discussion of the principles involved in political organization and law, emphasizing tribal and other traditional social systems.

405. Economic Anthropology (3) F, 1979 and alternate years Gregory
Prerequisites: Anthropology 300, 303. General principles underlying non-Western economic systems of production and distribution.

406. Comparative Religion: the Anthropological Approach (3) F Dixon, Eckhardt
Prerequisite: Anthropology 120 or consent of instructor. Variety of religious beliefs and practices in cultures throughout the world, analyzed from a broad comparative view of religion as a universal human institution, emphasis on the nature, meaning, and functions of religion in human society. Not open to students with credit in Anthropology 305.

407. Folklore (3) S Eckhardt
Prerequisite: Anthropology 120 or consent of instructor. Myths and tales of peoples of the world; the place of folklore in cultural life and its spread from one people to another. Not open to students with credit in Anthropology 307.

411. Personality and Culture (3) S McCone
Prerequisite: Anthropology 120 or consent of instructor. Relationships between cultural, social and personality factors in human behavior; development of personality in representative cultures; changing viewpoints in culture-personality studies.

413. Language and Culture (3) F, S Harman, Key
Prerequisite: Anthropology 120 or 170 or consent of instructor. Linguistic patterns and their relation to other aspects of culture, such as social organization and ways of thinking; use of native language in the study of culture.

414. Linguistic Anthropology (3) S McCone
Prerequisite: Anthropology 170 or structural linguistic courses from other departments. The methods of historical and comparative linguistics and their application to the study of man and his cultural past.

415. The Dynamics of Cultural Change (3) S Gregory, Harman
Prerequisites: Anthropology 120 and 300 or consent of instructor. Analysis of the processes of cultural change such as invention, diffusion and culture contact; the impact of Western civilization upon primitive and peasant cultures; emphasis on major theories and case studies of cultural change.

416. Urban Anthropology (3) F Kershaw, Ruyle
Prerequisites: Anthropology 300, 303, any two area courses or consent of instructor. Substantive and theoretical consideration of the anthropology of cities and urban societies with special reference to societies and nations in the process of modernization.

417. Applied Anthropology (3) F McCorkle
Prerequisite: Anthropology 120 or consent of instructor. Strongly recommended: Anthropology 415. Applications of anthropological theory, knowledge and skills to problems related to community development, education, medicine and public health with special reference to cross cultural problems.

419. Anthropology and Health (3) S Harman
Recommended: Anthropology 120. Medical beliefs and practices in diverse cultural settings; relation of health behavior to other areas of culture. Recommended for students in nursing and allied health fields.

420. American and European Societies: An Anthropological Approach (3) F, 1978 and alternate years Kershaw
Prerequisite: Anthropology 120 or other introductory social science course or consent of instructor. Study of modern communities in selected areas of America and Europe, the relationships of these communities to the larger environments within which they are placed, problems of plural and complex societies, networks and the application of modern anthropological theories to the study of these communities.

421. Anthropology and Education (3) F Faculty
Prerequisite: Anthropology 120 or consent of instructor. Application of anthropological perspective and concepts to the understanding of the problems and processes of formal education. Role of culture in the motivation of learning in diverse ethnic groups and under conditions of rapid cultural change.

430. Human Evolution (3) F, S Bates, Shermis
Prerequisite: Anthropology 110 or consent of instructor. Fossil evidence for human evolution with a consideration of the importance of cultural factors. Not open to students with credit in Anthropology 360.

431. Human Variation (3) F, S Bates, Shermis
Prerequisite: Anthropology 110 or equivalent or consent of instructor. Influence of culture and environmental factors upon the composition and distribution of human populations. Genetic basis for human variation and the biological validity of the race concept. Not open to students with credit in Anthropology 361.

432. Primate Studies (3) S Shermis
Prerequisite: Anthropology 110 or equivalent or consent of instructor. Description of the several spheres of primatology including gross morphology, taxonomy, phylogeny, behavioral studies and ecology. (Field trips scheduled to San Diego Zoo.) Not open to students with credit in Anthropology 363.

450. Field Methods in Archaeology (3) S Fenenga
Prerequisites: Anthropology 120 or 240 and consent of instructor. Locating and recording of archaeological sites. Methods of excavation and recording of field data. Excavation at a local archaeological site.

451. Analysis and Interpretation of Archaeological Data (3) F Fenenga
Prerequisites: Anthropology 120 or 240 and consent of instructor. Laboratory processing and description of archaeological materials within a framework of the theory of typology, quantitative and statistical approaches to analysis of archaeological assemblages.

460. Methods in Ethnology and Social Anthropology (3) S Eckhardt, Gregory, Kershaw
Prerequisites: Anthropology 300, 303 and consent of instructor. Methods used in the study of other peoples and cultures; field techniques and supervised practice in observation, interviewing, securing and interpreting data; related theory.

470. Field Methods in Linguistics (3) F Key
Involves the study of unwritten languages of the world, demonstrating how to arrive at a suitable alphabet and methods for revealing the grammar system. Of interest to those preparing for work in literacy or cultural studies through folklore of unrecorded languages and variant dialects. Not open to students with credit in Anthropology 471 or 472.

480A. Methods in Physical Anthropology: Osteology (3) F Shermis
Prerequisites: Anthropology 110, consent of instructor. Instruction in osteology, landmarks and methods in anthropometry and somatology; measurement and analysis of osteological collections, applied anthropometry and somatotyping. Instruction in paleopathology as necessary; discussion of skeletal identification where applicable. (Lecture 2 hours, laboratory 3 hours.)

480B. Methods in Physical Anthropology: Serology (3) S Bates
Prerequisites: Anthropology 110, laboratory biological science and consent of instructor. Laboratory procedures used in the analyses of genetic systems: blood grouping techniques, immunodiffusion and electrophoretic techniques; recent research and applications of genetic data to anthropological problems. (Lecture 2 hours, laboratory 3 hours.)

490. Special Topics in Anthropology (1-3) On demand Faculty
Prerequisite: Consent of instructor. Topics of current interest in anthropology selected for intensive development. May be repeated for a maximum of six units. Topics will be announced in the *Schedule of Classes.*

496. Foundations of Anthropological Knowledge (3) S McCone
Prerequisites: Senior or graduate standing, Anthropology 301 or consent of instructor. Critical study of concepts and theory developed in anthropology, their relationship to the culture in which they have developed and to other disciplines of the study of man, the ethical and moral implications of anthropological research and knowledge; its applications to the problems of modern man.

499. Guided Studies in Anthropology (1-3) F, S Faculty
Prerequisite: Consent of department. Selected topics in anthropology and preparation of a research report. May be repeated for a maximum of 6 units.

Graduate Division

500. Core Course, Ethnology and Social Anthropology (3)

501. Development of Anthropological Theory (3)

502. Proseminar (3)

504. Kinship Systems (3)

516. Urban Anthropology (3)

520. Core Course, Archaeology (3)

530. Core Course, Linguistics (3)

540. Core Course, Physical Anthropology (3)

570. Advanced Field Method in Linguistics (3)

597. Directed Readings in Anthropology (1-3)

600. Seminar in Ethnology and Social Anthropology (3)

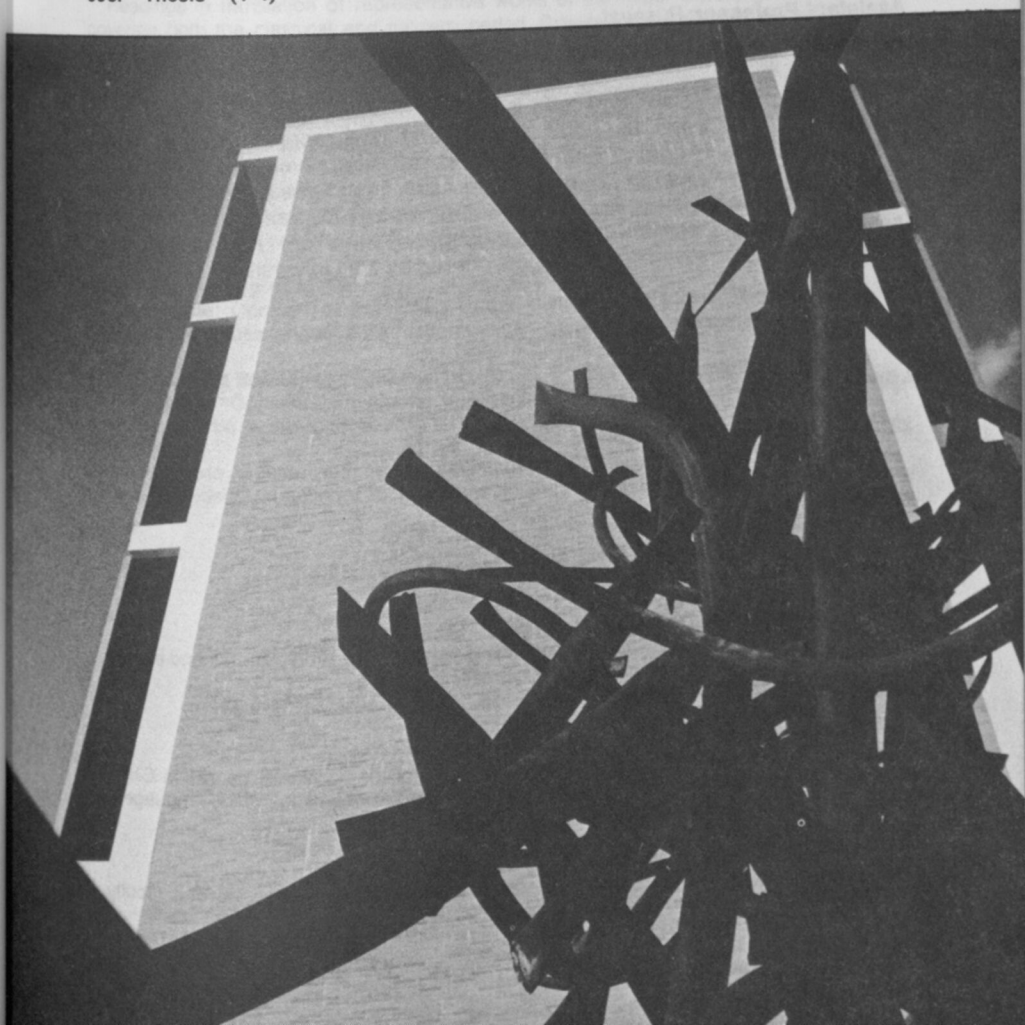
620. Seminar in Archaeology (3)

630. Seminar in Anthropological Linguistics (3)

640. Seminar in Physical Anthropology (3)

697. Directed Research (1-3)

698. Thesis (1-4)



Asian Languages

Administrator: Dr. Franklin Odo.

Associate Professors: Li, Miyazaki, Odo.

Assistant Professor: Pusavat.

Academic Advising Coordinator: Dr. Franklin Odo.

The program in Asian languages is governed by a board of two members representing the Center for Asian Studies and one representing the Asian American Studies Program, and is housed administratively with the Asian American Studies Program. Course work in Asian languages is required for the Certificate in Asian Studies and for the master of arts degree in Asian studies (see the *Graduate Bulletin*). Asian language courses are also appropriate electives to support several of the majors offered by the University.

Chinese

Lower Division

221A-B. Fundamentals of Chinese (4,4) F, S Li
Prerequisite for 221B: Chinese 221A. Introduction to grammar, reading, pronunciation, writing and conversation. Not open to students with previous training or to native speakers of Chinese.

Upper Division

331A-B. Intermediate Chinese (4,4) F, S Li
Continuation of first year Chinese. Reading and translation of simple stories and essays; emphasis on grammar, composition and conversation.
331A. Prerequisite: Chinese 221A-B. 331B. Prerequisite: Chinese 331A.

370. Chinese Literature in Translation (3) S Li
Readings in translation of representative works of the major literary genres in China covering both the classical and the modern period. Previous knowledge of the language is highly desirable, but not necessary.

499. Directed Studies in Chinese (1-3) F, S Li
Prerequisite: Consent of instructor. Independent study under supervision of a faculty member. May be repeated for a maximum of 6 units.

Japanese

Lower Division

221A-B. Fundamentals of Japanese (4,4) F, S Miyazaki, Pusavat
Introduction to grammar, reading, pronunciation, writing and conversation.

Upper Division

300. Calligraphy (3) S Faculty
History and theory of Shodo (Japanese calligraphy). Practice in actual writing with a brush to develop skills in kanji and kana. Pursuit of simplified yet multi-dimensional beauty by means of one color which is *sumi* ink. Previous knowledge of Japanese is helpful, but not required. (Lecture 1 hour, laboratory 4 hours.)

331A-B. Intermediate Japanese (4,4) F, S Miyazaki, Pusavat
Continuation of first year Japanese. Progressive drill on syntax and grammar and sentence patterns: reading, translation and composition.
331A. Prerequisite: Japanese 221A-B. 331B. Prerequisite: Japanese 331A.

370. Japanese Literature in Translation (3) F, S Faculty
Readings in translation of representative works of the major literary genres in Japan covering both the classical and modern period. Previous knowledge of the language is highly desirable, but not necessary. (Lecture-discussion 3 hours.)

405A-B. Conversational Japanese (3,3) F, S Miyazaki, Pusavat
Prerequisite: Japanese 331B or its equivalent as determined by instructor. Advanced study in modern spoken Japanese.

441A-B. Advanced Japanese (3,3) F, S Miyazaki, Pusavat
Prerequisite: Japanese 331B or its equivalent as determined by the instructor. Study of modern spoken and written Japanese involving advanced patterns, expressions.

490. Special Topics in Japanese (1-3) F, S Faculty
Prerequisite: Consent of instructor. Topics related to advanced Japanese language study and Japanese language instruction selected for intensive development.

499. Directed Studies in Japanese (1-3) F, S Miyazaki, Pusavat
Prerequisite: Consent of instructor. Independent study under supervision of a faculty member. May be repeated for a maximum of 6 units.

Asian Studies

Director: C. Furth.

Professors: I. Aall, Ph.D.; H. Carr, Ph.D.; S. Chawla, Ph.D.; C. Furth, Ph.D.; L. Inui, M.A.; H.I. Kim, Ph.D.; J. Kimura, Sc.D.; A. Lipski, Ph.D.; R. McKay, M.A.; A. Marsot, Ph.D.; G. Shoup, Ph.D.

Associate Professors: M. Debysingh, Ph.D.; T. Ishimine, Ph.D.; D. Libby, Ph.D.; A. Miyazaki, M.A.; F. Odo, Ph.D.; Sievers, Ph.D.

Assistant Professors: J. Broughton, Ph.D.; C. Brown, Ph.D.; S. Li, Ph.D.; Y. Pusavat, M.A.; E. Ruyle, Ph.D.

A program in Asian studies has been established to encourage and promote the study of Asian cultures and civilizations. A student may earn a Certificate in Asian Studies with a concentration on either China, Japan or India. Courses used to meet the certificate requirements also may be used to satisfy, where applicable, the General Education requirement and the major and teaching minor requirements of the cooperating departments.

Requirements for the Certificate in Asian Studies:

1. A bachelor's degree.
2. A minimum of two semesters of an Asian language which is to be selected in accordance with the area of concentration.
3. Eighteen units selected from three or four of the disciplines listed below (in addition to the two semesters of Asian languages) limited in accordance with the area of concentration and in consultation with the student's adviser. No more than six units in any one discipline shall apply towards the certificate.

Asian Studies courses: Asian Studies 100, 101; Anthropology 332, 333; Art 113A-B, 319A-B, 415A-B, 491, 492, 494A-B, 497; Comparative Literature 234, 325*, 403; Economics 362, 367; Geography 313, 314; History 181A,B, 382A,B, 383A,B, 385A,B, 401, 481**, 487, 488, 682, 683; Music 394; Philosophy 306, 307; Political Science 362, 363, 364, 366, 407; Religious Studies 152, 341, 343, 344, 351, 481**; Theatre Arts 325*; Sanskrit 331, 332, 341, 342; Japanese 221A,B, 300, 331A,B, 405A,B, 441A, 441B, 499; Chinese 221A,B, 331A,B, 499.

Interested students should apply to the Director for Asian Studies.

* Since Comparative Literature 325 is the same course as Theatre Arts 325, student can apply only one toward certificate requirements.

** Since Religious Studies 481 is the same course as History 481, student can apply only one toward certificate requirements.

Master of Arts Degree in Asian Studies

A program of study leading to the master of arts degree in Asian studies is offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Courses Offered

Lower Division

100. Traditional Asia (3) F Faculty
Introduction to traditional civilizations of China and India with some reference to Japan. Cultural aspects will be emphasized to illustrate the richness and diversity of Asia.

101. Modern Asia (3) S Faculty
Emphasis on China and Japan in the modern world with some attention to India as well as the experiences of Asians in the U.S. Continuity and change; reform and revolution in culture, politics and the economy will be included.

Graduate Division

695. Directed Readings (1-3)

697. Directed Research (1-3)

698. Thesis (2-6)

Computer Studies in the Liberal Arts

Director: Dr. Glen Walker.

Students interested in computer and information science courses and programs should consult the Director of the Center for Computer Studies in SS/PA 207 for additional information.

200. Introduction to Data Analysis (3) F, S Black, Stevens, Walker
A course for beginners in punching questionnaire responses and other data on cards, how to use the keypunch and sorter, analyzing data with the Statistical Package for the Social Sciences, the logic of scientific research, use of data banks and writing simple computer programs in BASIC on an interactive computer terminal. Offered Credit/No Credit only.

210. Computer Statistics (3) F, S Hubbard
Prerequisite: Knowledge of mathematical procedures covered in elementary high school algebra. Use of on-line SPSS (Statistical Package for the Social Sciences) with statistical applications. Descriptive statistics; probability distributions; tests of hypotheses and estimation; contingency tables and their analysis; correlation and regression; non-parametric techniques. (Lecture 3 hours.)

273. Cobol Programming (3) F, S Seewerker
Prerequisite: A previous course in computing, such as Mathematics 270 or Quantitative Systems 240. Fundamentals of the computer programming language Cobol Data division, input and output file handling for tapes and disks. Computer assignments using Cobol. Not open to students with credit in Mathematics 273.

321. Information Systems Using Cobol (4) F, S Faculty
Prerequisite: Mathematics 273 or Computer Information Science 273. Study of information systems based on Cobol. Review of basic Cobol programming and introduction to advanced features with emphasis on sophisticated file handling techniques and organization. Data base management systems. Several computer projects in the design and implementation of information systems. Same course as Mathematics 321. (Lecture 3 hours, problem session 2 hours.)

Economics

Department Chair: Dr. J. Richard Powell.

Emeritus: Peter F. Palmer.

Professors: Atherton, Cole, Crowther, Glezakos, Dvorak, J.R. Powell, Rooney, Segelhorst, Simonson, Strain.

Associate Professors: R.C. Anderson, Beaumont, Ishimine, Larmore, Magaddino, Skov, Stern, Tennenbaum.

Assistant Professor: Farrell.

Credential Adviser: Dr. I. Lee Skov.

Academic Advising Coordinator: Dr. Joseph P. Magaddino.

Economics is a social science dealing with resource allocation, productive processes, income distribution, and levels of output, employment and prices. Its purpose is prediction of the economic behavior that may be expected within existing or proposed institutional frameworks.

The bachelor of arts degree with a major in economics prepares the student to qualify for a variety of positions in business and government. The degree also provides the foundation for teaching in elementary and secondary schools and for more advanced study in economics, business, law and other related fields.

Major in Economics for the Bachelor of Arts Degree (code 2-8510)

Lower Division: Economics 200, 201, Accounting 202 and two upper division or lower division courses (totaling 6 or more units) selected from the departments of anthropology, geography, history, mathematics, political science, psychology, quantitative systems and/or sociology. These courses shall be in addition to courses fulfilling categories II and V of the General Education requirement. Under certain circumstances the student who declares economics as a major in upper division status may, with departmental consent, substitute Economics 300 for Economics 200 and 201. Students planning graduate study in economics are strongly urged to take analytic geometry and calculus.

Upper Division: Economics 310, 311, 313, 320, 360 or 361, 380 and two additional upper division economics courses, exclusive of Economics 300, 495 and 499.

Minor in Economics (code 0-8510)

A minimum of 21 units which must include Economics 200, 201, 310, 311 or 320, and one of the following: Economics 313, 360, 361, 368. Under certain circumstances the student who declares economics as a minor in upper division status may, with departmental consent, substitute Economics 300 for Economics 200 and 201.

Master of Arts Degree in Economics

A program of study leading to the master of arts degree in economics is offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

200. Principles of Economics (3) F, S Faculty
Money and banking, price changes, national income analysis, business cycles, economic growth, fiscal and monetary policy, international trade. (Macro Economics.)

201. Principles of Economics (3) F, S Faculty
Business organization, price theory, allocation of resources, distribution of income, public economy. (Micro Economics.)

Upper Division

300. Fundamentals of Economics (3) F, S Faculty
Designed for nonmajors. Presents basic training in economics for social studies teachers or citizens who wish to exercise a reasoned judgment about economic issues in public affairs. Content generally same as Economics 200, 201 in condensed form. Not open to students with credit in Economics 200 or 201 except by consent of the Economics Department.

303. Current Economic Thought (3) S Simonson
Covers ideas and philosophies of famous economists and leading present-day schools of economic thought. Includes study of main ideas of such important economic philosophers as Galbraith, Myrdal, Samuelson, Friedman, Sweezy, Mises, Rothbard and several others. Emphasis on modern institutionalist school, post-Keynesian school, Chicago monetarist school, neo-Marxist radical school and libertarian school. Not open to students with credit in Economics 312.

305. Resources and Man (4) S Rooney
Occurrence and setting of non-renewable resources: ore deposits, fuels and water. Extraction and conservation. Demand for resources: economic and population growth, technology, pollution control, recycling, imports and exports. Taxation and government regulation of mineral industries. (Same course as Geology 305.)

307. Economics of Women (3) S Skov
The changing economic role of women in the marketplace. Topics include an economic analysis of discrimination, increased participation of women in employment, marriage and fertility choices and impact of government programs on the role of women. Open to both men and women.

308. Consumer Economics (3) F, S Skov
Consumer demand; advertising and other influences affecting demand; consumer sovereignty; patterns of consumer expenditure; the consumer protection movement; consumer taxes, family incomes and related public policy issues.

310. Microeconomic Theory (3) F, S Faculty
Prerequisites: Economics 200 and 201. Analysis of economic concepts and their applications to business situations. Emphasis on supply and demand analysis, costs of production, variations of competition and monopoly, revenues, prices, profits and losses, and other aspects of the operations of the business enterprise.

311. Macroeconomic Theory (3) F, S Faculty
Prerequisites: Economics 200 and 201. Determinants of levels of income, employment, and prices; of secular and cyclical changes in economic activity; and of the effects of public policies upon aggregative economic experience.

313. History of Economic Thought (3) F, S Cole, Simonson
Prerequisites: Economics 200 and 201, or 300. Evolution of economics as a science. Doctrines of the different schools of economic thought. Study of the contributions of outstanding economists. Not open to students with credit in Economics 412.

320. Money and Banking (3) F, S Anderson, Dvorak, Stern, Tennenbaum
Prerequisites: Economics 200 and 201. Nature and functions of money and its relation to prices; the monetary system of the United States; the functions of banks, bank credit, foreign exchange and monetary control.

333. Managerial Economics (3) F, S Faculty
Prerequisites: Economics 200, 201 and Mathematics 115B (core requirement for business students); or Economics 310, or consent of instructor. Applications of microeconomic and macroeconomic theory to managerial decisions and planning. Analysis of the firms' resource and product markets. Production functions; cost and output decisions. Pricing strategies under various market constraints. Investment in fixed assets. Business forecasting. Emphasis upon the calculation of solutions to operational problems of the business firm.

334. Environmental Economics (3) S Rooney
Relationship to economic policy and environmental degradation of the goal to maximize wealth; historical and economic roots of the goal to maximize wealth; economic and population growth and the environment; implications for environmental protection policy; alternative economic goals implied by increasing environmental and natural resource constraints.

355. Law and Economics (3) S Magaddino
Prerequisite: Economics 201 is suggested. Analysis of economic concepts and their application to law and legal institutions. Emphasis on property law, contract law, accident law, crime control and judicial administration.

360. American Economic History (3) F, S Crowther, Powell
Prerequisites: Economics 200 and 201, or 300. Economic analysis of growth and welfare in the American economy from the beginnings of industrialization to the present, with emphasis upon the material and social factors affecting the transformation of our economy since the early nineteenth century.

361. European Economic History (3) F Crowther
Prerequisites: Economics 200 and 201, or 300. Economic analysis of the principal features of the European economy from the Industrial Revolution to the present, with emphasis upon the problems of economic growth, capital formation and technological and demographic change in this era.

362. Japanese Economy (3) F Ishimine
Prerequisites: Economics 200 and 201 are recommended but not required. Social and historical background of the Japanese economy, from the Takugawa and Meiji periods to the present. Early industrialization efforts and postwar policies for "democratization" of the economic structure. Contemporary problems, policies and patterns of institutional change. Analysis of influences affecting growth and prospects for economic progress.

363. Latin-American Economic Problems (3) S Farrell, Powell
Prerequisites: Economics 200 and 201 are recommended but not required. Development and current problems of the Latin-American economies. Emphasis on factors affecting growth rates and distribution of income. Procedures stress individual studies and reports.

364. Soviet Economy (3) S Faculty
Soviet economic history; historical and ideological background; early policy experiments; the "Stalin model"; policies and performance in growth, income distribution, consumption. Recent economic problems, proposed reforms.

367. Chinese Economy (3) F Faculty
Political economy of the People's Republic of China. Relationships between ideology, institutions, policy and performance in a dynamic context.

368. Comparative Economic Systems (3) F, S Faculty
Handling of economic problems in differing national and ideological contexts. Combines an overall conceptual framework with the study of specific national approaches.

380. Economic Statistics (3) F, S Glezakos, Rooney
Prerequisite: Mathematics 100 or equivalent. Elementary statistical analysis of economic data, probability theory, sampling, distributions, statistical inference, testing of hypotheses, simple linear regression and correlation, time series, index numbers.

410. Problems of Microeconomic Analysis (3) S Tennenbaum
Prerequisite: Economics 310 or 333. Detailed analysis and examination of particular markets and contemporary issues in light of economic theory. Emphasis on the role of information and transaction costs, property rights and economic efficiency, alternative models of firm's cost functions, capital budgeting and implications of the theory of market structures for particular markets. Students will be required to make seminar presentations of their analyses.

420. Economic Fluctuations and Forecasting (3) S Faculty
Prerequisites: Economics 311, 320. Booms and recessions: their characteristics, causes and consequences. Policies designed to reduce economic fluctuations. Current business cycle developments. Alternative methods of forecasting changes in economic conditions.

422. Monetary and Fiscal Policy (3) F Beaumont, Cole
Prerequisites: Economics 311, 320. Application of monetary and fiscal theories to a nation's economic problems. Theory, targets, instruments and institutions of economic policy. Analysis of policy actions affecting output, employment, prices, external balance and income distribution. Private/public sector interaction; efficiency/equality dilemma. Procedures stress individual studies and reports.

430. Government and Business (3) F Cole, Powell
Prerequisites: Economics 200 and 201, or 300. Basic American policy of maintaining competition to control economic behavior, with some consideration of alternative policies. Case studies of specific industries. Not open to students with credit in Economics 330.

431. Economics of Transportation (3) F Segelhorst
Prerequisites: Economics 200 and 201, or 300. Economic, institutional and historical factors determining the transportation system of the United States, the various agencies of transport, their rates and rate structure. Problems and policies of railroad, highway, water, air and pipeline transportation. Current development of a national policy for transportation. Not open to students with credit in Economics 331.

432. Public Utilities (3) S Cole, Rooney
Prerequisites: Economics 200 and 201, or 300. Economic foundations of utility regulation; historical development and current status of rate regulation; environmental aspects of the regulation of utility operations; alternatives to present utility regulation practices. Examples will be drawn from electric, gas, telephone, water and other utility enterprises. Not open to students with credit in Economics 332.

436. Urban Economic Problems (3) F Segelhorst, Skov
Prerequisites: Economics 200 and 201, or 300. Intensive study and analysis of selected urban economic problems. Students prepare reports for class discussion, proposing policy solutions for such problems as poverty, political fragmentation, segregated housing and traffic congestion.

437. Regional Economics (3) S Segelhorst
Prerequisites: Economics 200 and 201, or 300. Analysis of intranational regions, determination of regional income levels, stability, economic growth, specialization and trade. Application of analytical tools to the problems of the Los Angeles region. Not open to students with credit in Economics 336.

441. Labor Economics (3) F Anderson, Atherton, Strain
Prerequisites: Economics 200 and 201, or 300. Manpower resources and their utilization, with particular reference to labor unions, collective bargaining and related public policies. Effects of these institutions on production, employment, prices and patterns of income distribution. Not open to students with credit in Economics 340.

444. Economics of Poverty (3) S Atherton
Prerequisites: Economics 200 and 201, or 300. Incidence and causes of poverty in the United States. Welfare and other programs designed to alleviate poverty. Procedures stress individual studies and reports.

445. Economics of Health (3) F Larmore
Prerequisite: Economics 201 or 300. Analysis of health as an economic good. Health services as scarce resources. Use of tools of economic theory in study of special problems of health resources, markets, manpower shortages, non-profit enterprises, insurance programs and Medicare. Procedures stress individual studies and reports. Not open to students with credit in Economics 345.

450. Public Finance (3) F Beaumont, Magaddino, Segelhorst
Prerequisites: Economics 200 and 201, or 300. The economic role of government. Analysis of the theory of public goods. Criteria for efficient allocation of resources between the private and the public sector. Possible responses of government externalities, such as environmental degradation. Emphasis of the allocation and distribution effects of government expenditures and taxation. Not open to students with credit in Economics 350.

451. Economics of State and Local Governments (3) S Beaumont
Prerequisites: Economics 200 and 201, or 300. State and local fiscal systems; economic analysis of government functions, revenues and intergovernmental relations; implications for regional development. Not open to students with credit in Economics 351.

465. Economic Development (3) F Farrell, Glezakos
Prerequisites: Economics 200 and 201, or 300. Economic and social factors underlying economic development. Analysis of problems associated with the economic growth of the less developed countries. Evaluation of development policies. Not open to students with credit in Economics 365.

471. International Economics (3) F, S Farrell, Glezakos, Ishimine, Stern
Prerequisites: Economics 200 and 201, or 300. International trade and exchange rate theory. Types of trade control: tariffs, quotas, exchange manipulation, monopolies. Basic U.S. and European commercial policies since 1930. Not open to students with credit in Economics 370.

472. International Trade and Finance (3) F Farrell, Ishimine, Stern
Prerequisite: Economics 471. Pure theory of trade. Consequences of balance of payments disequilibrium for national income and prices. Tariffs, customs, unions and the theory of commercial policy. Foreign exchange market and international financial institutions. Not open to students with credit in Economics 470.

481. Intermediate Economic Statistics (3) F Glezakos
Prerequisite: Economics 380. A rigorous treatment of statistics emphasizing aspects relevant to economics. Statistical inference, probability distributions, applications of simple and multiple regression analysis to economic problems, analysis of variance and structural analysis of time series.

486. Introduction to Econometrics (3) S Glezakos
Prerequisites: Mathematics 115, Economics 380, or consent of instructor. Elementary mathematical expression of economic theory. Combined use of mathematics and statistics to solve economic problems. Use of econometric models for formulating economic policy.

490. Special Topics in Economics (3) On demand Faculty
Prerequisite: Consent of instructor. Topics of current interest in economics selected for intensive development. May be repeated for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

495. Field Studies Practicum (3 or 6) F, S Strain, Tennenbaum
Prerequisites: Economics 310 or 333 and consent of instructor. Observation and practical experience, at a managerial level, in an appropriate business or government enterprise. Applications for permission to enroll must be filed with the Economics Department at least six weeks prior to beginning of the semester involved. Course may be repeated for a maximum of six units.

499. Directed Study (1-3) F, S Faculty
Prerequisite: Consent of instructor. Independent study under the supervision of a faculty member. May be repeated for a maximum of six units of credit.

Graduate Division

500. Business Economics (3)

510. Advanced Microeconomic Theory (3)

511. Advanced Macroeconomic Theory (3)

545. Economics of Health Care Facilities (3)

583. Mathematical Economics (3)

620. Seminar in Monetary Theory (3)

630. Seminar in Industrial Organization and Economic Policy (3)

636. Seminar in Urban and Regional Economics (3)

640. Seminar in Labor Economics (3)

650. Seminar in Public Finance (3)

661. Seminar in Economic History (3)

665. Seminar in Economic Development (3)

670. Seminar in International Economics (3)

686. Seminar in Econometrics (3)

697. Directed Research (1-3)

698. Thesis (2-6)

American Indian Studies

Director: Mr. Richard W. Band

Academic Advising Coordinator: Mr. Richard W. Band.

The American Indian Studies program exists to explore and make more widely known the American Indian heritage and role in the development of America and to investigate the condition and problems of the American Indian today with a view to formulating possible solutions and publicizing the results of its investigations. The program aims not only to meet the needs of the reservation and urban American Indian but also to enlighten students who are interested in widening their own understanding and cultural backgrounds. Since the program will draw upon a variety of traditional disciplines, the student will be exposed to diverse courses designed to present various aspects of the Indian community and way of life which will reveal differing opinions about this minority, its problems, and future. Specifically, this program is designed to serve the interests and goals of (1) American Indian students who wish to broaden their own knowledge about American Indians, (2) Indians and non-Indians alike who may enter such diverse fields as law, administration, counseling and American Indian affairs, teaching, social work, (3) the general student who wishes to explore a further educational dimension by focusing on an ethnic minority.

The program attempts to develop and coordinate activities in the community that will not only serve the interests of the community but also provide students the opportunity to gain valuable work experiences in the "field." Field interns can be placed within numerous and varied community-oriented agencies, such as nearby Indian centers, free clinics, correctional facilities, Title IV educational programs and schools.

Students may pursue a program in American Indian Studies through a minor or certificate, a concentration in American Indian Studies within the liberal studies degree program or an individually-designed undergraduate special major program under the Special Programs Office. Advisement in American Indian Studies is available in the program office, FO4-174.

Certificate in American Indian Studies

Students pursuing any approved degree or credential program of the University may at the same time earn a Certificate in American Indian Studies. Courses taken to meet the requirements may also simultaneously be used, where applicable, to meet General Education requirements or the degree or

credential requirements of cooperating departments. Certification of successful completion of requirements will be issued upon the recommendation of the Director of the American Indian Studies Program.

Requirements for the Certificate in American Indian Studies

1. A bachelor's degree with a major in a traditional discipline. (Certificate requirements may be completed prior to the completion of the B.A. requirement.)
2. Submission of all college/university transcripts to the academic advising coordinator, who will work with the student to develop a well integrated program of studies. Interested students are strongly encouraged to meet with the academic advising coordinator after having completed the lower division core courses.
3. A minimum of 24 units, distributed as follows:
   a. Lower division core courses (six units): American Indian Studies 100 and 101.
   b. Upper division core course (three units): American Indian Studies 335.
   c. Upper division regional history course (three units), selected from American Indian Studies 302, 303, 304, 305, 308, and any other such course offered by the program.
   d. Upper division community studies course (three units), selected from American Indian Studies 312, 313, and any other such course offered by American Indian Studies; and,
   e. Upper division elective courses (nine units), selected from American Indian Studies, Art 411C, Anthropology 321, 322, 347, History 473A, and any other related course approved by the academic advising coordinator. (The student is advised to employ these elective units in the development of an area of emphasis.)

Minor in American Indian Studies (code 0-8420)

A minimum of 18 units which must include American Indian Studies 100, 101, 335; three units selected from American Indian Studies 302, 303, 304, 305, 308; three units selected from American Indian Studies 312, 313; three units selected from an American Indian Studies course, Art 411C, Anthropology 321, 322, 347, History 473A.

Lower Division

100. American Indian History: Pre 1871 (3) F, S Faculty
A survey of the histories and cultures of American Indian peoples in North America from pre-contact to 1871 and an analysis of the political, cultural, legal and military relationships that developed between the American Indians and foreign nations. Not open to students with credit in American Indian Studies 130.

101. American Indian History: Post 1871 (3) F, S Band
A survey of the histories and cultures of American Indian peoples in North America from 1871 to the present. Not open to students with credit in American Indian Studies 131.

Upper Division

302. Northwest Indian History (3) F, 1981 and every third year Faculty
Histories and cultures of the American Indian peoples from northern California to southern Alaska, with an emphasis given to their relationships with the United States and Canadian governments. Not open to students with credit in American Indian Studies 330.

303. California Indian History (3) F, S Faculty
Histories and cultures of the American Indian peoples in California, emphasizing Spanish and American influences. (Lecture-discussion 3 hours.)

304. Southwest Indian History (3) F, 1979 and every third year Faculty
Histories and cultures of the American Indian peoples in the Southwest; a major focus on Spanish and American colonization. (Lecture-discussion 3 hours.)

305. Plains Indian History (3) S Faculty
Histories and cultures of the American Indian peoples in the Plains, with an emphasis on their relationships with the United States government. Not open to students with credit in American Indian Studies 331.

308. Southeast Indian History (3) F, 1980 and every third year Faculty
Histories and cultures of the American Indian peoples in the Southeast emphasizing their relationships with the United States government. Not open to students with credit in American Indian Studies 133.

312. American Indian in Urban America (3) S, 1980 and every third year Faculty
Prerequisite: American Indian Studies 101 or consent of instructor. Historical development of American Indian communities within urban areas and an analysis of what it means to be an "urban Indian" in modern America. (Lecture-discussion 3 hours.)

313. American Indian and Penal Institutions (3) S, 1981 and every third year Faculty
Prerequisite: American Indian Studies 101 or consent of instructor. An analysis of organized and bureaucratized authority, the penal institutions and law enforcement on the federal, state and local level and a study of rehabilitative programs, half-way houses, culturally-oriented prison groups and other programs. The underlying factors involved in Indian criminality will be examined. (Lecture-discussion 3 hours.)

320. American Indian Art (3) F, S Faculty
A survey of North American Indian and Alaskan native arts ranging from pre-Columbian through current personal and production-for-sale arts. Designed to expose the student to the wide range of American Indian materials, use, styles, regional characteristics and color use employed in the arts, including and beyond those in current popularity. Not open to students with credit in American Indian Studies 132.

335. American Indian Philosophies (3) S Faculty
Prerequisite: American Indian Studies 100 or Anthropology 321 or 406 or consent of instructor. A study of the philosophical traditions of the American Indian, with emphases on systems of knowledge, explanations of natural phenomena, and relation of the American Indian to nature through ritual and ceremonial observances.

337. American Indian Child Development (3) F, 1979 and alternate years Faculty
Prerequisite: American Indian Studies 100 or 101 or consent of instructor. The growth and development of children in American Indian communities through an analysis of traditional child-rearing patterns and the relationships of children to their families and tribes. Analysis of the effects of Western society on those developmental patterns. (Lecture 3 hours.)

340. American Indian Literature (3) F, 1978 and alternate years Faculty
Prerequisite: American Indian Studies 100 or 335 or Anthropology 407 or consent of instructor. An analysis of the written and oral literary traditions developed by American Indians. Not open to students with credit in American Indian Studies 333.

345. The American Indian and the Mass Media (3) S, 1979 and alternate years Faculty
Prerequisite: American Indian Studies 100, 101 or consent of instructor. An analysis of the role and image of the American Indian in media especially as concerns the television and film industries. (Lecture-discussion 3 hours.)

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361. American Indian Education (3) S Band
Prerequisite: American Indian Studies 100, 101 or consent of instructor. A study of the historical developments of American Indian education and proposed solutions to selected problems of education in the various types of schools. (Lecture-discussion 3 hours.)

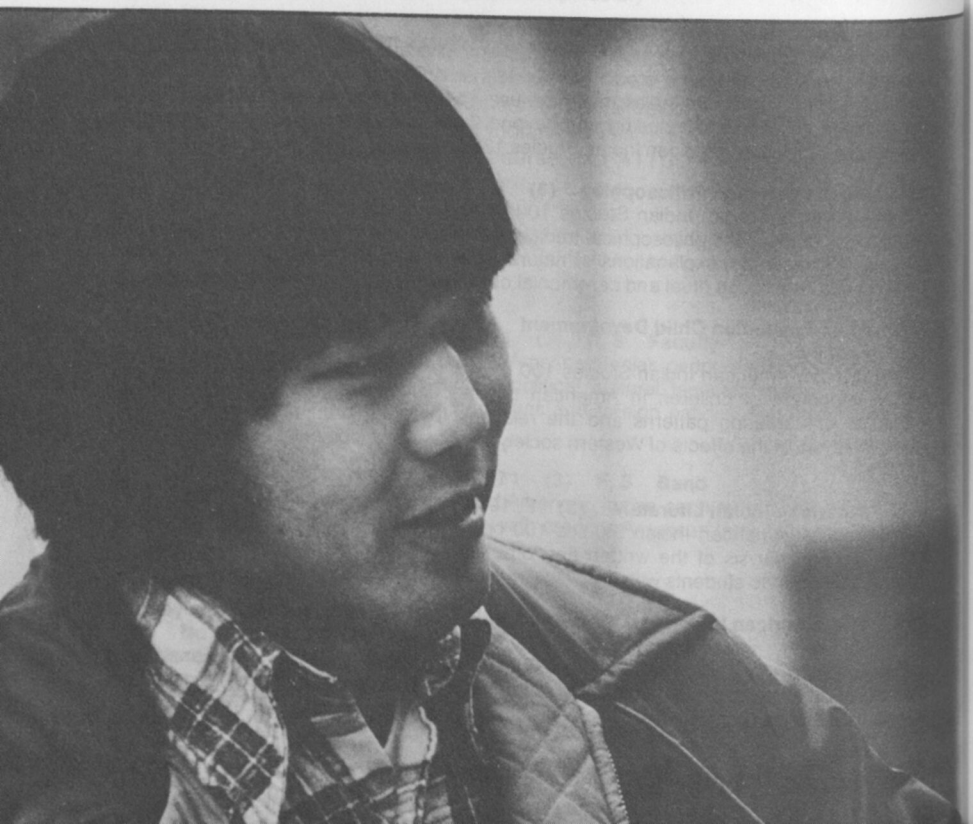
375. The Bureau of Indian Affairs (3) S, 1980 and alternate years Faculty
An analysis of the origin, history and function of the Bureau of Indian Affairs, with emphasis given to its influence upon today's American Indians. Not open to students with credit in American Indian Studies 332.

420. American Indian Studio Art (3) On demand Faculty
Selected arts and crafts. Designed for student practice in North American Indian arts. Manual demonstration and instruction in some of the widely practiced Indian art expressions and film instruction in some of the lesser known arts. (Lecture-activity 6 hours.)

490. Special Topics in American Indian Studies (1-3) On demand Faculty
Prerequisite: Consent of instructor. Topics of current interest in American Indian studies selected for intensive development. May be repeated for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

497. Fieldwork in American Indian Studies (1-3) F, S Band
Prerequisites: Upper division standing, consent of instructor. Supervised experiences relevant to specific aspects of the American Indian community in off-campus settings. The fieldwork project must be directly related to the student's major or certificate program. Regular meetings with faculty supervisor and written reports required. May be repeated for a maximum of six units.

499. Directed Studies (1-3) F, S Band
Prerequisite: Consent of instructor. Directed Studies to permit individual students to pursue topics of special interest. May be repeated for a maximum of six units.



Asian American Studies and Asian Languages

Director: Dr. Franklin Odo.

Professors: Inui, Johnson.

Associate Professor: Odo.

Academic Advising Coordinator: Dr. Franklin Odo.

Asian American Studies is a unique program with two distinct functions: to research and investigate the Asian American from a variety of perspectives in order to provide information heretofore unavailable and to make this information known not only to Asian Americans but to all people.

The program is an interdisciplinary curriculum leading to knowledge and training necessary for (1) professional work in the Asian American community, (2) various occupational skills including teaching, school administration, social work, government work, urban planning, communications, (3) exploring an educational dimension by emphasizing and focusing on ethnic minorities.

At present the Asian languages, which are administered in the Asian American Studies Program, include first and second year Chinese and Hindi, the first, second and third year of Japanese and a course in Indic literature.

Certificate in Asian American Studies

Students pursuing any approved degree or credential program of the University may at the same time earn a Certificate in Asian American Studies. Courses taken to meet the requirements may also simultaneously be used, where applicable, to meet General Education requirements or the degree or credential requirements of cooperating departments. Certification of successful completion of requirements will be issued upon the recommendation of the Director of the Asian American Studies Program.

Requirements for the Certificate in Asian American Studies

1. A bachelor's degree with a major in a traditional discipline. (Certificate requirements may be completed prior to the completion of the B.A. requirement.)
2. A minimum of 30 units distributed as follows: eight units of an Asian language; Asian American Studies 102, 220, 345 and 370 which are core courses; a minimum of three units selected from Asian American Studies 400A,B, 420A,B, 490; additional courses selected from Asian American Studies 200, 310, 320, 330, 340, 380, 430, 470, 499.

Interested students should apply to the Director, Asian American Studies Program, Dr. Franklin Odo.

Minor in Asian American Studies (code 0-8430)

A minimum of 22 units which must include: (a) Asian American Studies 200, 220, 310, 345; (b) nine units selected from Groups I and II with at least three units selected from Group II courses.

Group I: Asian American Studies 320, 330, 370, 380, 490, 499.

Group II: Asian American Studies 400A,B, 420A,B, 430, 470.

Lower Division

102. Asian American Experience (3) F, S Odo
Quest for identity of the Asian minorities in America; issues, problems and alternatives which confront the Asian American. Emphasis on small group interaction and counseling of individual students.

200. Asian American Inter-Ethnic Relations (3) F Faculty
Behavior and orientation of the Asian Americans as a minority group; emphasis on the nature of their relations and their patterns of interaction with other minorities as well as the majority culture.

220. Asian American History (3) F, S Inui, Odo
History of the arrival, settlement and experiences of Asians in America from the 1840's to the present.

Upper Division

310. Education and the Asian American (3) F, S Faculty
Examining problems and potentials of a multi-racial classroom for the understanding of and relating to students of diverse cultural backgrounds, with an emphasis on the Asian American. Small group interaction and counseling of individual students.

320. Mass Media and the Asian American (3) S Faculty
Prerequisite: Asian American Studies 102 or consent of instructor. Structure and operation of the various forms of mass communications; impact on American society and the Asian American image. Emphasis on student research and writing.

330. Politics and the Asian American (3) S Odo
Prerequisite: Asian American Studies 102 or consent of instructor. Background, development and character of the political attitudes, behavior and roles of the Asian American. Emphasis on survey and analysis of the contemporary aims and activities of Asian Americans.

340. Asian American Family (3) F, S Inui
Study of the Asian American family as a social institution; emphasis on the influence and consequences of the traditional Asian values and the impact of Western culture in the formation of a distinct family life style.

345. Asian American Community Analysis (4) F Odo
Prerequisite: Asian American Studies 102 or consent of instructor. Socio-economic, political and cultural profile of Asian American communities; role and function of community organizations. Training in community surveys and service. (Lecture, activity.)

370. Asian Man and Woman in America (3) F, S Johnson
Prerequisite: Asian American Studies 102 or consent of instructor. Roles as individuals, as sexual counterparts and their relationship to each other and to the majority culture. Small group interaction and counseling of individual students.

380. Asian Philosophies and Religions in America (3) S Inui, Johnson
Influence of and changes in Asian philosophies and religions in the American environment. Emphasis on Confucianism, Taoism, Hinduism, Buddhism and Shintoism in relation to individual and social values in America.

400A,B. Martial Arts (3,3) F, S Faculty
Prerequisites: Asian American Studies 102 and consent of instructor. Analysis of the martial arts including the development of techniques and study of the philosophic concepts and values that underlie the idea of achieving and integration of the mind and body. (Lecture, activity.)

420A,B. Asian American Cinematography (3,3) F, S Faculty
Prerequisite: Consent of instructor. Utilizing the motion picture camera the class will explore the visual perspective of Asian people as related to their cultural evolution. Students will study the cinemagraphics of Asian film makers and will make films as a means of self-expression.

430. Japanese Americans and World War II (3) S Inui, Odo
Prerequisite: Asian American Studies 102 or 220 or consent of instructor. Background to and impact of evacuation and incarceration of Japanese Americans during World War II. Consideration of constitutional, economic, social and literary issues.

470. Counseling the Asian American (3) S Johnson
Examining current theories and practices in counseling and guidance. Emphasis on the special problems encountered in counseling the Asian American. Training will be directed toward meeting the personal, educational and vocational needs and aspirations of the Asian American.

490. Special Topics in Asian American Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Topics of current interest in Asian American Studies selected for intensive development. May be repeated for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

499. Directed Studies (1-3) F, S Inui, Johnson, Odo
Prerequisite: Consent of instructor. Directed studies to permit individual students to pursue topics of special research interest. May be repeated to a maximum of six units.

Black Studies

Department Chair: Dr. Skyne Uku.

Associate Professors: Hartsfield, Robinson, Uku.

Assistant Professors: Rahh, White.

Academic Advising Coordinator: Dr. Skyne Uku.

The black studies curriculum is designed to provide general knowledge of black culture and history and to offer training for professional work in the black community. It offers programs to serve (1) teachers; (2) those entering a variety of occupations, including social case work, school administration, urban planning, government, recreation, journalism, business, criminology, law, foreign service, communications, speech and linguistics, psychology; (3) majors in other fields, such as history, literature, creative writing, anthropology, who wish to include additional dimensions to their course of study.

Information regarding black studies can be obtained at the Black Studies Department Office.

Major in Black Studies for the Bachelor of Arts Degree (code 2-8425)

A minimum of 39 units is required for the major in black studies.

Lower Division: Black Studies 110 and three selected from the following core courses: Black Studies 120, 155, 160, 210.

Upper Division: Black Studies 330, 332, 335, 340 plus 15 units selected from Black Studies 304, 325, 331, 337, 343, 346, 370, 400, 404, 410.

Certificate in Black Studies

Students majoring in other departments of the University but interested in Black Studies may at the same time pursue a program leading to a Certificate in Black Studies. Courses used to meet the certificate requirement may, where applicable, also be used simultaneously to meet General Education requirements or the major and minor requirements of cooperating departments.

Requirements for the Certificate in Black Studies

1. A bachelor's degree with a major in a traditional discipline. (Certificate can be completed prior to or simultaneously with completion of the B.A. requirement.)

2. A minimum of 24 units of which at least 12 must be in upper division courses, with two or more courses selected from each of the following: *Group A:* Black Studies 110, 210, 325, 330, 332, 335, 370, 420; *Group B:* Black Studies 160, 340, 343, 346, 363, 450; *Group C:* Black Studies 120, 200, 201, 202, 304, 337, 400, 410.

Minor in Black Studies (code 0-8425)

A minimum of 24 units of which at least 12 units must be in upper division courses, with two or more courses selected from each of the following: *Group A:* Black Studies 110, 210, 325, 330, 332, 335, 370, 420; *Group B:* Black Studies 160, 340, 343, 346, 363, 450; *Group C:* Black Studies 120, 200, 201, 202, 304, 337, 400, 410.

Lower Division

110. Introduction to Black Studies (3) F, S White
Survey of major problems and issues with which Afro-American studies deals. Overview of sources and materials for Afro-American studies, and preparation of formal papers and reports.

120. Survey of Afro-American History (3) S Robinson, Uku
Chronological sequence of events, their causes and their effects upon the lives of Afro-Americans. Survey of United States history through the eyes of the black man. (Lecture-discussion 3 hours.)

140. Introduction to African and Afro-American Literature (3) F, S Faculty
Study of representative works, in English and translation, of black writers from Africa and non-African countries.

155. Afro-American Music (3) F Faculty
Non-technical survey of Afro-American music.

160. Black Arts (3) F, S Faculty
Survey course in the development of the student's understanding of Pan-African music, drama and visual arts as they grow out of the black experience.

167. Exploitation of the Black Athlete (3) F Rahh
Study of the socio-dynamics of amateur, professional and collegiate sports activity in the United States as it relates to the Afro-American community.

200. Black Ancient Civilization (3) S Uku
Historical study of black peoples, tracing their earliest appearances in Africa, migrations, ancient and medieval empires and kingdoms, styles of culture and civilization, and their situations at the time of contact with the Western world.

201. Black World: History of Slavery (3) F, S Uku
Historical examination of the trans-Atlantic slave trade and its impact on Africa and the Western Hemisphere. Includes inquiry into the nature of slavery in Africa, the Caribbean, North and South America, with major emphasis on slavery and its meaning in the United States.

202. Black World: After Slavery (3) F Uku
History of social and political change in the black world in the last two centuries, including the decline of slavery; the rise of colonialism and partition, independence, nationalism and the struggle against colonialism, neo-colonialism and racism.

210. Afro-American Community (3) F, S Robinson, White
Social structure and change in the community life of Afro-Americans. Institutional and stratification patterns, demographic changes, social movements and community organization programs.

Upper Division

304. World Colonialism (3) F Uku
Analytical study of colonialism, examined as a crucial phenomenon in regards to the development of world civilizations.

325. Psychology of the Afro-American (3) F, S Rahh, White
Examination of the psychological conflicts of Afro-Americans in relation to their social situations.

330. Politics of the Black Community (3) F, S Hartsfield, Robinson
Study of the devices, styles, problems and dynamics of political activity in the black community.

331. Black Juvenile (3) F, S Faculty
Prerequisite: Black Studies 210 or consent of instructor. Critical approach to the problem of juvenile justice in the black community.

332. Black Man and the Law (3) F, S Hartsfield
Designed to provide the student with a basic understanding of the interaction between the American legal system and the black community.

335. Economic Problems of the Black Community (3) F, S Hartsfield, Robinson
Current economic problems of Afro-Americans. Economic problems of the black ghetto, including the effects of racism and developmental alternatives.

337. Culture of Pan-African Peoples (3) F, S Uku
Analysis of Pan-African cultural geography and a study of human behavior in Pan-African societies. Not open to students with credit in Black Studies 110E.

340. Development of Afro-American Literature (3) F Faculty
Representative selections from black writers of the United States, from colonial times to the present.

343. Literature of Africa and the Caribbean (3) F, S Faculty
Individual and group pursuit of special problems and projects in African and Caribbean literature.

346. Black Theatre (3) F, S Faculty
Survey of historical and contemporary black theatre, including study of the art forms, and an exploration of major events and an examination of the works of modern playwrights.

353. Black Religion (3) F Faculty
Prerequisite: Black Studies 337 or consent of instructor. General nature of religion as perceived in Africa and how this perception has manifested itself among blacks in the New World.

363. History of African Art (3) F, S Uku
Survey of African art from antiquity to the present, with principal focus on sub-Saharan art.

370. The Black Man and the Mass Media (3) F Hartsfield
Examination of the uses and abuses of mass media in the projection of the black community and its people, past and present. Primary emphasis will be on the press, the radio, the television and the film industry.

400. Afro-American Social Thought (3) S Robinson, White
Survey of Afro-American intellectual history with emphasis on social theories and polemic writing.

404. Twentieth Century Revolution in the Third World (3) F, S Robinson, Uku
Emphasis is on the bourgeois, democratic revolution after World War I to the current revolutions which take the form of a proletarian-socialist world revolution.

410. The Black Family (3) F White
Prerequisite: Consent of instructor. Historical study of the psychological development of the black family.

420. Needs of the Ghetto Child (3) F, S Blaylock
Study of the physical, intellectual, social and psychological needs of ghetto children. Theories, concepts and principles relating to the growth, development and learning of the black child will be explored. Not open to students with credit in Black Studies 420A or B.

421. Black Child Care and the Community (3) F Blaylock
Prerequisite: Black Studies 210 or 331 or 410 or 420. Application of information, theories, concepts and principles relative to ghetto children. Field experiences in a variety of ghetto settings provide opportunities for students to try out promising approaches to the development and learning of ghetto children. (Discussion 2 hours, field work 3 hours.)

432. Advanced Studies in Afro-American Music (3) F, S Faculty
Prerequisite: Black Studies 155. Study of the development, evolution and essence of Afro-American music in the 20th century from perspectives of Afro-American social and cultural history.

450. Black Writers Workshop (3) S Robinson
Creative writing from the black perspective. A course dealing with the unique task of the black writer, in approaching the black experience and transmitting this experience into fiction or poetry.

451. Black Legal Remedies (3) S Hartsfield
Prerequisite: Black Studies 332 or 452 or consent of instructor. Course is designed to assist the student searching out, discovering and using existing valid and functional laws and regulations which have particular bearing on the legal status of minorities. It will instruct the student in methods and procedures for seeking assistance from agencies, individuals and institutions by which legal redress may be obtained and individual rights secured. This will be accomplished by an extensive study and analysis of poverty law and related agencies and institutions.

452. Ecology of Black Crime (3) F Faculty
Prerequisite: Black Studies 210, 331 or 332. Study of the interrelationships between the black criminal, the minority community and the criminal justice system.

460. African Thought (3) F Uku
Prerequisite: Background knowledge of Africa from history, political science, anthropology or sociology is highly recommended. Analysis of philosophical and religious systems of Africa from antiquity to present.

490. Special Topics in Black Studies (1-3) On demand Faculty
Prerequisite: Consent of instructor. Topics of current interest in black studies selected for intensive development. May be repeated for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

499. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Permits individual students to pursue topics of special research interest. May be repeated to a maximum of six units.

Mexican American Studies

Department Chair: Mr. Federico A. Sanchez.

Associate Professors: Hidalgo, Osuna, Sanchez.

Assistant Professors: Lopez, Ramirez.

Academic Advising Coordinator: Mr. Federico A. Sanchez.

Mexican American studies courses are designed to provide a general knowledge of the history and culture of the Chicanos in the United States. The department offers programs to serve the interests and goals of (1) those entering a variety of occupations including urban studies, government, journalism, social work, school administration, business, criminology, law, foreign service and other related areas, (2) teachers, counselors, administrators, (3) majors in other fields such as history, sociology, psychology, literature, anthropology, who wish to include additional scope to their field of study.

Major in Mexican American Studies for the Bachelor of Arts Degree (code 2-8817)

Lower Division: A minimum of 16 units distributed as follows: 13 units from Mexican American Studies 100, 103A,B, 104A,B, 203 and three units selected from Mexican American Studies 205 or 230.

Upper Division: A minimum of 24 units distributed as follows: 12 units of core requirements selected from Mexican American Studies 405, 420 or 425, and any three of the following: Mexican American Studies 300, 310, 350, 443; nine units selected from one of the three groups: *Group I (Humanities)*—Mexican American Studies 305, 312, 402, 403, 405, 420, 425, 460A-B; *Group II (Social Science)*—Mexican American Studies 300, 304, 310, 350, 360, 375, 380, 400, 443, 450, 480, 490; *Group III (Education)*—Mexican American Studies 340, 442, 443, 444, 445 and three elective units from any group or Mexican American Studies 499.

Departmental Requirement: Two years of Spanish and the successful completion of a Spanish proficiency examination are required of all majors. (If the student is proficient in Spanish the two years' requirement may be met by successful completion of the proficiency examination.)

Minor in Mexican American Studies (code 0-8817)

A prerequisite to taking this minor is successful completion of two Spanish courses, recommendation by the Mexican American Studies Department or the successful completion of a Spanish proficiency examination.

Requirements for the Minor:

A minimum of 24 units distributed as follows: 12 units of core requirements: three units from Mexican American Studies 405, 420 or 425, and nine units from the following: Mexican American Studies 300, 310, 350, 443; nine units selected from one of the three groups: *Group I (Humanities)*—Mexican American Studies 305, 312, 402, 403, 405, 420, 425, 460A-B; *Group II (Social Science)*—Mexican American Studies 300, 304, 310, 350, 360, 375, 380, 400, 443, 450, 480, 490; *Group III (Education)*—Mexican American Studies 340, 442, 443, 444, 445; and three elective units from any group of Mexican American Studies 499.

Certificate in Mexican American Studies

In addition to the bachelor of arts degree in Mexican American Studies, the department offers a certificate in Mexican American Studies. Courses used to meet this certificate requirement may be counted also, where applicable, toward the General Education requirements and the major and teaching minor requirements of the cooperating departments.

Requirements for the Certificate in Mexican American Studies:

1. A bachelor's degree with a major in a traditional discipline.
2. A minimum of 24 units distributed as follows: 12 units of core requirements: three units from Mexican American Studies 405, 420 or 425, and nine units from the following: Mexican American Studies 300, 310, 350, 443; nine units selected from one of the three groups: *Group I (Humanities)*—Mexican American Studies 305, 312, 402, 403, 405, 420, 425, 460A-B; *Group II (Social Science)*—Mexican American Studies 300, 304, 310, 350, 360, 375, 380, 400, 443, 450, 480, 490; *Group III (Education)*—Mexican American Studies 340, 442, 443, 444, 445; and three elective units from any group of Mexican American Studies 499.

Lower Division

100. The Chicano in United States Society (3) F, S Faculty
Focuses on the Hispano, Mexican and Indian heritage of the Chicanos of the Southwest and their contribution to the United States with emphasis on the political, educational, economic and sociological facets of their role in contemporary U.S. society.

103A. Bilingual Communication Skills—Spanish (4) Osuna, Ramirez, Faculty
Prerequisite: Placement test. Designed for those students from a Spanish speaking background who have minimal ability in the Spanish language. Students completing this course may enroll in Mexican American Studies 103B.

103B. Bilingual Communication Skills—Spanish (4) Osuna, Ramirez, Faculty
Prerequisite: Placement test or completion of Mexican American Studies 103A. Designed for those students from a Spanish speaking background who have an oral-aural communicative skill in the language. Students completing this course may enroll in Mexican American Studies 203.

104A. Bilingual Communication Skills—English (3) F, S Osuna, Ramirez, Faculty
Prerequisite: To be taken concurrently with Mexican American Studies 103A or B. Basic fundamentals of English communication for students of bilingual background.

104B. Bilingual Communication Skills—English (3) F, S Osuna, Ramirez, Faculty
Prerequisite: Mexican American Studies 104A or placement test, to be taken concurrently with Mexican American Studies 103A or B. Advanced fundamentals of English communication for students of bilingual background. (Fulfills English 100 requirements.)

203. Spanish for the Native Speaker (3) F, S Osuna, Ramirez, Faculty
Meets the needs of bilingual students whose cultural background has prepared them for special forms of accelerated Spanish instruction. The successful completion of this lower division course will enable the student to enter upper division classes in Spanish.

205. Introduction to Chicano Literary Studies (3) F, S Osuna, Ramirez
Introductory survey course in Mexican and Chicano literature covering traditional and contemporary literary styles and forms from selected translated Mexican and Chicano readings.

220. Teatro Chicano (3) F, S Faculty
Utilizes both traditional and innovative theatre methods such as satire, pantomime, parodies, the absurd and improvisation to communicate the historical and contemporary problems confronting the Chicano. Emphasis on street type theatre as a vehicle of communication.

230. Chicano Community Organization (3) F, S Lopez, Faculty
Analysis of Chicano community groups; emphasis on development of community organizational techniques.

280A-B. Bilingual Skills for Health Sciences (3) F, S Osuna, Ramirez, Faculty
An oral-aural Spanish language course for individuals in the health sciences and others working in related areas in the Spanish-speaking community. Sociological and psychological aspects of language and culture will be discussed.

Upper Division

300. History of the Chicano in the Southwest (3) F, S Sanchez
Chicano's role in the settlement and development of the Southwest and in contemporary U. S. society; Chicano experience as a U.S. minority group; emerging civil rights movement of *La Raza*.

304. Mass Media and the Barrio (3) F, S Lopez, Faculty
Impact of American mass media on Chicano community life from the 19th Century to the present.

305. Mexican Literature in Translation (3) S Osuna, Ramirez
Prerequisite: Completion of Mexican American Studies 205 or any other lower division literature course. Survey of Mexican literature, with emphasis on the contemporary trends, authors and works which have most greatly influenced the Chicano writers of today. Not open to students with credit in 305A and/or 305B.

310. Chicano Thought (3) F, S Sanchez
Study of the ideas, philosophies and events affecting Chicano life; identification and examination of the Chicano world view, of a Chicano reality.

312. Mexican Thought (3) F Sanchez
Inquiry into the nature of Mexican thought and a critical examination of Mexican world views and views about the nature of morality, beauty, society, religion and intellect.

340. The Chicano and Education (3) F, S Hidalgo, Sanchez
Analysis of the failure of school systems to meet the needs of Chicano students, evaluation and consideration of the changes in philosophy, curriculum, methodology and testing and guidance procedures that must be made.

350. Sociology of the Barrio (3) F, S Faculty
Analysis of social institutions in the Chicano community. Survey of educational, political, religious, economical and social systems. Field work will be required to provide relative experiences.

360. Justice and the Chicano (3) F, S Lopez
Study of the administration of justice as it relates to the barrio and the Chicano; examination of police-community relations, administrative procedures, courts and jury systems and their relationship to Chicanos. Analysis of civil rights legislation and its effectiveness on the Chicano community.

375. The Chicano in the Penal System (3) F, S Lopez
Examines via discussion and observation rehabilitational, educational and vocational programs in the penal system in terms of overall effectiveness relative to the Chicano. Selected field trips will be scheduled throughout the semester.

380. Chicano Roots in Precolumbian Mexico (3) F Sanchez, Faculty
History of Meso-America from prehistoric times to the Spanish conquest, emphasizing the study of the societies and the religious and intellectual life of people of ancient middle America.

400. Chicano Roots in Modern Mexico (3) F, S Sanchez, Faculty
Effects of the political and cultural evolution of modern Mexico on the Chicanos of the Southwest as demonstrated by the conquest, War of Independence, the revolution and contemporary times.

402. Bilingual Linguistic Studies (4) F Osuna
Prerequisite: Two years of college level Spanish. Study of the Spanish and English linguistic patterns of the Chicano, specifically in the southwestern United States. Class will include use of the language laboratory.

403. Dialectology of the Southwest (3) S Osuna
Prerequisite: Mexican American Studies 402 or equivalent. Analysis of the Spanish and English dialects of the Chicano, specifically in the Southwest United States. Students will complete field work projects.

405. Chicano Literature (3) F, S Osuna, Ramirez
Prerequisite: Reading and listening comprehension of Spanish language plus any upper division literature class. In-depth study and analysis of the history, development, themes and genres of the literature of the Chicano and by the Chicano in English and Spanish language texts.

420. Chicano Heritage in the Arts of Mexico and the Southwest (3) F, S Faculty
Historical and philosophical analysis of Indian Mestizo and Chicano plastic arts, music and dances with a view to understanding the Chicano heritage.

425. Mexican and Chicano Folklore (3) F, S Osuna
Prerequisite: Mexican American Studies 103B or equivalent. Study of folklore with special reference to the folkloric contribution of Mexico and the Southwest to the United States. Emphasis on narrative genres of folklore employing a humanistic and cultural approach. Field work and recording of materials. Reading and oral comprehension of Spanish required.

430A-B. Ballet Folklorico (2,2) F, S Faculty
History and practice of traditional Mexican dances from Pre-Columbian to contemporary time. (Lecture 1 hour, dance activity 3 hours per week.)

442. Counseling Chicanos (3) F, S Hidalgo, Johnson
Prerequisite: Upper division standing in Mexican American Studies or consent of instructor. Present day theories of counseling, theoretical issues and special problems encountered in counseling Chicanos. Goals, processes and techniques of counseling.

443. Psychology of the Chicano (3) F, S Johnson
Prerequisite: Mexican American Studies 100 or consent of instructor. Significance of the "psi" phenomena and its related variables on the cognitive and conative development of the Mexican American in the segregated barrio and integrated suburban environments. Will deal with basic physiological and psychological theories, principles and practices relative to the individual's personality dynamics. Included will be a comparison of Mexican and Western methodology in educational and psychological research endeavors.

444. Chicano Community-School Relations (3) S Hidalgo, Johnson
Comparative study of the pressing issues facing the school and the barrio; development of functional school-barrio relationships based on barrio expectations and educational practices.

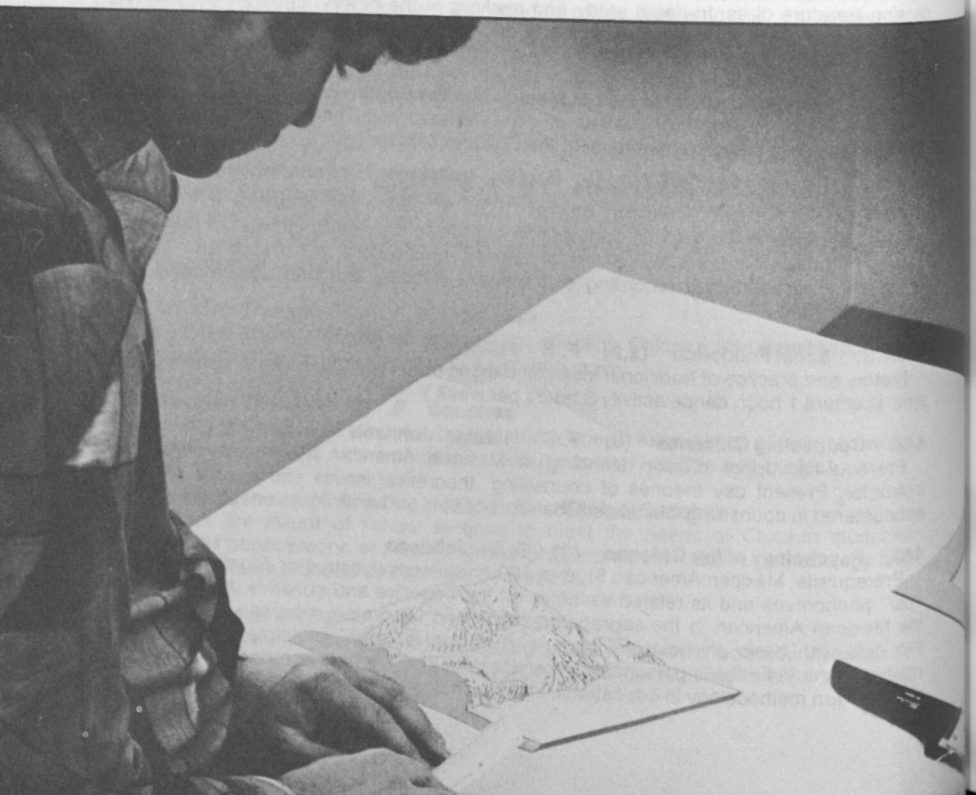
445. Reading for Chicano Bilingual Children (3) F, S Olguin, Faculty
Prerequisites: Elementary Education 450 or Secondary Education 457, minimal command of Spanish. Analysis of and practice in the teaching of reading to the Spanish speaking and the limited English speaking. Comparison of techniques in English and Spanish reading. Required for those pursuing the Bilingual/Cross-Cultural Specialist Credential and for those in the Bilingual Multiple Subjects Program in Elementary Education.

460A-B. Chicano Creative Writing Workshop (3) F, S Osuna, Ramirez, Sanchez
Prerequisites: Mexican American Studies 203 or equivalent, six upper division units of Mexican American Studies. A workshop allowing maximum independence for the pursuit of creative work in the genre of one's choice while investigating works by accomplished Chicano writers. Use of Southwest Spanish dialects.

480. Chicano Political Systems (3) F Lopez
Attempts by Chicanos to work within, and outside of, the United States political system from 1836 to 1910, and including contemporary political ideology.

490. Special Topics in Chicano Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Topics of current interest in Chicano studies selected for intensive development. May be repeated for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

499. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Preparation of research reports on selected topics relating to the Chicano. May be repeated for a maximum of six units.



Geography

Department Chair: Dr. Frederick H. Scantling.

Professors: Anderson, Ericksen, Karabenick, Kimura, Steiner, Wilson.

Associate Professors: Debysingh, Outwater, Peters, Scantling, Splansky, Tyner, Wheeler.

Credential Adviser: Dr. James N. Wilson.

Academic Advising Coordinator: Dr. Frederick H. Scantling.

Geography integrates information from many social and natural sciences by focusing upon human activities within the context of their physical and cultural environment. Because of the diversity of subject matter which it considers, geography offers a broad, liberal education which is applicable to many careers. These include elementary, secondary and college teaching; cartography; regional, urban and environmental planning; business; government and the foreign service.

The Geography Department offers the bachelor of arts and master of arts degrees, as well as a minor. Certain geography courses are applicable to teaching credential programs; to the degrees in earth science and liberal studies and to certificate programs in environmental, liberal, urban, Asian, Latin American, and Russian and East European studies.

Students may obtain from the department materials describing the major, minor and graduate programs and courses recommended for career preparation in geography.

Major in Geography for the Bachelor of Arts Degree (code 2-8515)

Lower Division: Geography 100, 140, 152, 160 or equivalents.

Upper Division: 24 units distributed as follows:

(1) Systematic courses: 9 to 18 units chosen from Geography 440, 442, 444, 452, 455, 460, 466, 467, 470, 494*, 497*, of which three units must be from 440, 442 or 444, and three units must be from 452, 455, 460, 466, 467, 470, 494*, 497*, and

(2) Methods and Techniques courses: 3 to 12 units chosen from 380, 400, 482, 487, 488, 490, 494*, 497*, 596, and

(3) Regional courses: 3 to 9 units chosen from 304, 306, 308, 309, 313, 314, 316, 317, 318, 321, 322, 326, 494*, 497*.

* At the time of enrollment in 494 or 497 the student must obtain written departmental notification whether the course will meet systematic or methods and techniques or regional requirements for the major.

Recommendation: Courses should be selected in consultation with the undergraduate adviser for the purpose of planning career objectives.

Minor in Geography (code 0-8515)

A minimum of 21 units consisting of Geography 380 and 18 units chosen in consultation with an adviser of which at least nine units must be in upper division.

Master of Arts Degree in Geography

A program of study leading to the master of arts degree in geography is offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

100. World Regional Geography (3) F, S Debysingh, Ericksen, Karabenick, Scantling
An introductory regional geography of the world, treating the major countries in terms of their population, resources, economic development, physical environment and geographic problems. Especially recommended for elementary teaching majors.

140. Introduction to Physical Geography (3) F, S Kimura, Peters, Steiner, Wheeler
Systematic study of man's physical environment including world patterns and interrelationships of landforms, climate, natural vegetation and soils, emphasizing ecological problems.

152. Economic Geography (3) F, S Anderson, Peters
Location and organization of the world's major types of production, including agriculture, mining, forest products, fisheries, manufacturing and associated service industries.

160. Introduction to Cultural Geography (3) F, S Debysingh, Scantling, Splansky
Nature of culture and its geographic aspects. Environmental perception, attitudes and cultural dynamics examined with reference to the formation of patterns of man's use of the land. Not open to students with credit in Geography 360.

204. The Southern California Urban Environment (3) F, S Outwater
Spatial features, issues and problems that characterize the Southern California urban environment. Attention is focused on the Greater Los Angeles area embracing Ventura, Los Angeles, Orange and adjacent urbanized portions of Riverside and San Bernardino counties. Not applicable toward a geography major.

Upper Division

304. California (3) F, S Splansky, Steiner, Wheeler, Wilson
Regional and topical analysis of California with emphasis upon environmental systems and economic and social problems. Not open to students with credit in any community college course in California geography.

306. United States and Canada (3) F, S Anderson, Outwater
Common social, economic and political interests of the major human use regions of the United States and Canada. The study describes and interprets the culture patterns of each region in relation to the natural settings in which they have developed.

308. Africa South of the Sahara (3) F Splansky
Examination of the diverse African landscapes and the cultural, economic, settlement and political relationships that characterize them.

309. North Africa and the Middle East (3) S Karabenick
Human and physical settings of North Africa and the Middle East are examined. Special emphasis is placed upon recent economic and political development, stressing those factors which underlie the region's general instability.

313. Eastern Asia (3) S Kimura
Regional synthesis of the physical environment, resource utilization, population and the cultural features which characterize the economic, social and political geography of China, Japan and Korea.

314. Southern Asia (3) F Debysingh
Problems of population, underdeveloped subsistence economies, incipient industrialization and cultural impact on the environment in the southern part of Monsoon Asia from India and Pakistan to Vietnam, Indonesia and the Philippines. Current topics affecting the land and peoples of the areas.

316. Western Europe (3) F, S Wilson
Regional study synthesizing the human and physical patterns of the European environment. Current cultural conditions and environmental problems are studied. Major subregions include Scandinavia, Western and Central Europe and the Mediterranean World.

317. Eastern Europe (3) S Faculty
Systematic and regional study of the physical, economic and cultural geography of the nations of Eastern Europe, excluding the Soviet Union.

318. The Soviet Union (3) F, S Ericksen
Systematic and regional study of the physical, economic and cultural geography of the Soviet Union.

321. Middle America (3) F Debysingh
Survey of Mexico, Central America and the Caribbean Islands as human habitats, emphasizing the environmental and cultural factors which shaped their present day characteristics.

322. South America (3) S Faculty
Topical and regional examination of the various physical and cultural patterns of South America as they relate to the social, economic and political problems of the area.

326. Pacific Ocean Area (3) S Scantling
Regional synthesis of the physical and cultural geography of Australia, New Zealand and the island groups of Oceania.

356. Man and the Coastal Environment (3) F, S Splansky, Steiner
Coastal zones as unique geographic environments. Man's past and present impact upon the coastal environment. Special emphasis is given to coastal settlement patterns, open space needs, planning problems and controls. Not applicable toward a geography major. (Lecture 1 hour, field study 4 hours.)

380. Map Reading and Interpretation (3) F, S Debysingh, Tyner
Prerequisite: One lower division course in geography or consent of instructor. Information retrieval techniques applicable to maps, including the study of symbolization, scale and projections. (Lecture, problems 3 hours.)

400. Introduction to Geographic Analysis (3) F Peters
Prerequisites: Six units of geography. Application of quantitative methods to the analysis of spatial distributions, associations and interactions. Not open to students with credit in Geography 390.

440. Land and Water Environments (3) F, S Steiner
Prerequisites: Geography 140 and 380 or consent of instructor. Landforms and related soil and water resources as physical components of the human environment. (Lecture-problems and field experience.)

442. Biogeography (3) F, S Wheeler
Prerequisite: Geography 140. A course in biology is strongly recommended. Methods of mapping plant and animal distributions, spatial interaction with environmental limiting factors and man's role in temporal and spatial variation of ecosystems. (Lecture-problems and field experience.)

444. Climatology (3) F, S Kimura
Prerequisite: Geography 140 or Geology 463. The elements, controls, descriptive and explanatory analysis of the distributional characteristics, classification of climates and the relationship of climate to the other major elements of geography. (Lecture, problems.)

452. Advanced Economic Geography (3) F Anderson, Peters
Prerequisite: Geography 152 or consent of instructor. Location theory and its application to the study of the distribution of various economic activities, international and inter-regional changes in the spatial structure of economic activities and the role of these changes in international and regional development. (Lecture, problems.)

455. Man as an Agent of Environmental Change (3) F, S Splansky, Wheeler
Spatial variations in environmental change as effected by man. A systematic and regional analysis at both macro and micro levels. Not open to students with credit in Geography 355. (Lecture 3 hours.)

460. Population Geography (3) F, S Peters
Definition and measurement of population characteristics; determinants of population size, density and distribution; historical geography of world population, migration, spatio-temporal aspects of the demographic and mobility transitions, geo-demographic problems of the developed and underdeveloped worlds.

466. Urban Geography: Principles (3) F, S Karabenick, Outwater
Examination of cities; their location, shape, structure and function. Selected world population clusters, theoretical and practical application of urban planning and the evolution of cities are studied. (Lecture-problems.)

467. Urban Geography: Metropolitan Problems (3) S Outwater
Prerequisite: Geography 466 or consent of instructor. Geographic components of metropolitan problems and their solutions. Problems related to transportation systems, housing, evolution of ghettos, urban perception and behavioral patterns will be discussed in terms of theoretical and practically applied urban planning solutions. (Lecture, problems 3 hours.)

470. Political Geography (3) F, S Wilson
Prerequisite: Geography 100 or consent of instructor. Comparative study of the earth's politically organized regions and related systems. Varied approaches are explored, such as power analysis, genetic analysis and functional analysis of political units. Stress is upon political geographic concepts used in analyzing the viability of states and nations. (Lecture, problems.)

482. Elements of Cartography (3) F, S Tyner
Prerequisites: Geography 380, consent of instructor. Techniques in construction of maps, charts and diagrams, including experience in the use of cartographic tools. (Lecture-discussion 2 hours, laboratory 3 hours.)

483. Aerial Photo Interpretation and Remote Sensing (3) F Tyner
Prerequisite: Consent of instructor. Introduction to the interpretation of air photos and other remotely sensed imagery. Includes determination of scale and height, acquisition of imagery and the electromagnetic spectrum. Special emphasis is placed on the recognition of physical and cultural features. (Lecture 2 hours, laboratory activities 2 hours.)

487. Field Methods in Rural Landscape Analysis (3) S Scantling, Splansky
Prerequisite: Geography 380 or consent of instructor. Introduction to field techniques and methods by which field studies of rural areas are made. Emphasis on physical geography, agricultural geography and man-land relationships. Not open to students with credit in Geography 387. (Lecture-discussion 2 hours, supervised field work 2 hours.)

488. Field Methods in Urban Analysis (3) F Karabenick, Outwater
Prerequisite: Geography 380 or consent of instructor. Introduction to urban field techniques, including formulation of field plans, recording direct observation, field mapping, sampling techniques, interviewing and compilation of data. Not open to students with credit in Geography 388. (Lecture-discussion 2 hours, supervised field work 2 hours.)

490. Quantitative Methods (3) On demand Peters
Prerequisite: Geography 390 or consent of instructor. Application of multivariate statistical methods in geographic analysis and the use of probability and other models in geographic research. Emphasis will be on problem solving and computer application.

494. Special Topics (1-3) On demand Faculty
Prerequisite: Consent of instructor. Application of geographical concepts and methodology to selected contemporary problems. Themes will be announced in the *Schedule of Classes*. May be repeated for a maximum of six units with consent of department chairperson. May not be credited toward the major in geography without written department consent in advance of enrollment.

497. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Individually directed studies of special problems in geography. May not be credited toward the major in geography without written department consent in advance of enrollment.

Graduate Division

582. Advanced Cartography (3)

596. Literature and Methods in Geography (3)

600. Seminar in Regional Geography (3)

640. Seminar in Physical Geography (3)

650. Seminar in Cultural Geography (3)

652. Seminar in Economic Geography (3)

666. Seminar in Urban Geography (3)

697. Directed Research (1-3)

698. Thesis (1-6)

History

Department Chair: Dr. Jack Stuart.

Emeriti: Kenneth Appelgate, Robert W. Frazer, Halvor G. Melom.

Professors: Abou-El-Haj, Ahlquist, Asher, Bernstein, Boutelle, Burke, Cerillo, Furth, Hardeman, Higgins, Hood, Kimball, Lindgren, Lipski, McFaul, Nichols, Peters, Ragland, Svec, Walzer, Wilde, Williams.

Associate Professors: Abrahamse, Bane, Berk, Black, Buchanan, Gosselin, Gunns, Polakoff, Raun, Sater, Sievers, Springer, Stuart, Weber.

Assistant Professor: Collins.

Credential Adviser: Dr. Irving Ahlquist.

Coordinator, Social Science Certificate Program: Dr. Irving Ahlquist.

Minority Adviser: Dr. David Hood.

Academic Advising Coordinator: Dr. Toivo Raun.

The study of history is intended to serve as a cultural background, as a preparation for graduate work in history and the other social sciences, or as a foundation for those planning to enter teaching, law, librarianship, government, foreign service, and related fields.

History majors who are contemplating graduate work in history are advised that many master's programs and most doctoral programs require competency in foreign language(s). Interested undergraduates should begin such language study as early as possible.

The Stuart L. Bernath Memorial Prize, named for a late member of the faculty, is awarded annually to the student who writes the best essay on some aspect of history. The award consists of a modest sum, a certificate and an entry on the official transcript of the recipient. Further information may be obtained from the prize committee of the History Department.

The History Department also offers a unique laboratory/internship experience and course work in the production of a professional journal, *The History Teacher*, which is edited and produced on this campus. Even for prospective teachers, this experience provides an introduction to current trends in curriculum innovation, new teaching strategies and analysis of materials and media designed for classroom use. It is one of the few such opportunities available at the undergraduate level anywhere in the United States.

General Education Requirement of United States History

Candidates may satisfy the requirement as follows: *Lower Division Students*—History 162A and 162B, or 172, or 173, or 174. *Upper Division Students*—Any upper division U.S. history course except California history. Check with History Department for upper division courses which are applicable.

Major in History for the Bachelor of Arts Degree (code 2-8525)

Lower Division: A minimum of *any* 12 units, except that no one may take 162A *and* 172, or 162B *and* 173.

Upper Division: (1) History 301; History 495 or 499. (2) 21 additional units, which must include *either* nine units in each of two of the following areas *or* six units in each of three of the following areas: (a) Ancient and Medieval, (b) Modern European, (c) Russian, (d) British, (e) Latin American, (f) United States, (g) East Asian, (h) South Asian, (i) Interdisciplinary and Comparative History. With the approval of the department, students may design a topical area as a substitute for one of the geographical areas.

Breadth Requirement: The total 39 unit requirement for the major must include at least three units in each of the following areas: (1) Modern Western History: 131B, 151B, 162A, 162B, 172, 173, 174, 402, 494 or any upper division course in United States, Latin American, British or Modern European history (with the exception of 332, 333, 334, 353, 431). (2) Ancient, Medieval and Early Modern Western History: 131A, 151A, 231, 313, 314, 316, 317, 318A, 318B, 332, 333, 334, 353, 432A. (3) Non-Western History: 181A, 181B, 341A, 341B, 382A, 382B, 383A, 383B, 385A, 385B, 431, 441, 481, 487, 488.

Note: Students working for a single-subject credential in secondary education must consult with the department's secondary education adviser as to the applicable credential major requirements.

Minor in History (code 0-8525)

A minimum of 21 units which must include:

Lower Division: A minimum of six units, which must include a six-unit sequence from the following: History 131A and B, 151A and B, 181A and B.

Upper Division: A minimum of 12 units, which must include at least six units in each of two areas as defined for the major.

Master of Arts Degree in History

A program of study leading to the master of arts degree in history is offered. For detailed information concerning requirements see the *Graduate Bulletin.*

Lower Division

108. Scientific and Humanistic Thought (3) F Gosselin, Lerner
Physics and history are used as examples of a scientific and a humanistic field respectively, and a critical inquiry is made into the likenesses and contrasts between these central intellectual modes. Same course as Physical Science 108.

131A,B. Western Civilization (3,3) F, S Faculty
Political, economic, social, cultural, religious and intellectual history of western civilization from its origins to the present. Stresses persons, ideas, movements and institutions that have had the greatest impact upon the modern world. Not open to students with credit in Honors 130.

151A,B. History of England and Great Britain (3,3) F, S Faculty
Survey and analysis of the cultural, economic and political growth of Great Britain and the Commonwealth from earliest times to the present. Emphasis is placed on the evolution of Anglo-American institutions and cultural heritage.

162A,B. Comparative History of the United States and Latin America (3,3) F, S Faculty
The history of the Western hemisphere from European contact to the present, with emphasis on institutions and traditions. (These two courses together meet the State of California requirement in U.S. History.)

172. Early United States History (3) F, S Faculty
Survey of the political, social, economic and cultural development of the United States from discovery through reconstruction. Attention to the colonial era, establishment of the new nation, sectional problems, national growth, disunion and reconstruction. Material may be covered chronologically or topically. Fulfills the general education requirement for U.S. history. Not open to students with credit in History 162A or 171A or *both* 173 and 174.

173. Recent United States History (3) F, S Faculty
Survey of the political, social, economic and cultural development of the United States from reconstruction to the present. Attention to the rise of industrial America, the United States as a world power, welfare democracy and the Cold War era. Material may be covered chronologically or topically. Fulfills the general education requirement for United States history. Not open to students with credit in History 162B or 171B or *both* 172 and 174.

174. Major Themes in United States History (3) F, S Faculty
Examination of major issues, problems and crises in American history. Course will focus on contemporary values and institutions, placing them in historical perspective. Fulfills the general education requirement for U.S. history. Not open to students with credit in History 162A or 162B or *both* 172 and 173.

181A,B. History of Asia (3,3) F, S Faculty
Historical development of the Indian and Chinese civilizations and of their extensions in Indonesia, Indo-China, Japan, Korea and Central Asia; relations between East and West; contemporary problems in Asia.

231. History of the Early Mediterranean World (3) S Bane, Hood
Introductory survey of Mediterranean civilization and culture from the rise of the Bronze Age cultures to the fall of Rome. Required for the Certificate in Mediterranean Studies.

290. Special Topics in History (1-3) F, S Faculty
Topics of current interest in history. May be repeated with different topics to a maximum of six units. Applicability to major requirements will be specified in description of individual topics, as announced in the *Schedule of Classes*.

Upper Division

301. Writing History (3) F, S Faculty
Required of all history majors in the first semester of upper division work. Practice in the use of historical evidence, reconstruction of events and presentation of findings. Emphasis on the preparation and analysis of written student exercises.

Ancient and Medieval

313. Ancient Greece (3) F, S Bane, Hood
History of the Greeks and the Greek world from the earliest times to the Roman Conquest.

314. Roman History (3) F, S Bane, Hood
History of Rome and the Roman world from the Eighth Century B.C. to the Fifth Century A.D.

316. Early Middle Ages (3) F Abrahamse, Boutelle
History of Western Civilization from the fall of the Roman Empire in the West to the Crusades. Germanization of the West, evolution of Christian institutions, Slavic expansion, Byzantinization of the Eastern Empire, Islamic civilization, Carolingian age, feudal and manorial institutions.

317. High Middle Ages (3) S Abrahamse, Boutelle
History of Western Civilization from the Crusades to the end of the Middle Ages. Revival of trade, growth of towns and of capitalism; origins of modern political institutions; and medieval learning and art.

318A,B. History of the Byzantine Empire (3,3) F, S Abrahamse
Political development of the Byzantine Empire from the fourth century A.D. to the fall of Constantinople in 1453; the cultural heritage of the Roman Empire in the eastern Mediterranean; religious controversies and the development of eastern Christianity; relations with Islam and medieval Europe.

411. Ancient and Medieval Christianity (3) F Abrahamse
Development of Christianity from the New Testament period to the Renaissance, with emphases on the growth of doctrine church, institutions and the role of Christianity in ancient and medieval society. Not open to students with credit in Religious Studies 471.

Modern European

332. The Age of Renaissance (3) F Gosselin
Early modern period. Economic decline and shifts in enterpreneurial activity; social structures; Italian and Northern state systems; Italian humanism and philosophies; magic and science; spread of Italian intellectual patterns to western Europe.

333. The Age of Reformation (3) S Gosselin
Age of theology; medieval and Renaissance reform movements; Reformation theologies; problems of Scriptural clarity; Counter-versus Catholic-Reformation; sociology of conversion; religious wars and monarchical crisis; expedient toleration; 17th century philosophic attacks on religion and God.

334. The Age of Absolutism (3) F Lindgren
Rise of the French Imperium in Europe and decline of the Spanish; triumph of science and mechanistic philosophy; growth of statism and its increasing separation from religious sectarianism; impact upon warfare, society, economic enterprise and culture.

335. Age of Enlightenment (3) F, S Lindgren
Intellectual, political and economic changes caused by evolution in thought and economy; persistence of the absolute state and the modifications of enlightened despotism; intellectual and cultural aspects of the enlightenment.

336. The French Revolution and Napoleon (3) S Lindgren
End of the Old Regime and the French Revolution. Decline of the feudal monarchy, failure of enlightened despotism, the rise of revolutionary thought, French Revolution, and Napoleonic imperialism.

337. Europe in the Nineteenth Century (3) F Abou-El-Haj, Lindgren, Weber
Apogee of European power, influence and confidence. Recovery from French Revolutionary and Napoleonic disturbances, reaction and revolution, nationalism, unification of Germany and Italy, triumph of liberalism, challenge of socialism, outburst of imperialism, alliances and alignments leading to World War I.

339. Europe Since 1914 (3) F, S Lindgren, Weber
World War I; outstanding changes in Europe after the First World War with particular stress on the rise of Fascism in Italy, Nazism in Germany, Communism in Russia, and Social Democracy in Scandinavia and Great Britain; the failure of the League of Nations and the collapse of collective security, World War II; the United Nations; postwar problems.

431. Arab and Islamic Civilization (3) F Abou-El-Haj
History and culture of the Arab and Islamic world from early origins in Arabia, and the establishment of the early Arab empires with emphasis on the recent period. Not open to students with credit in History 431A or 431B.

432A,B. Northern Europe (3,3) F, S 1979-80 and alternate years Lindgren
Historical foundations; the Vikings; medieval changes; the Reformation; emphasis on institutions, political development and social-economic changes. Emergence of the modern state, development of parliamentary and constitutional governments; social-economic changes and cultural movements.

433. History of the Iberian Peninsula (3) F Svec
Rise of Portugal, Castile and Aragon, the Catholic kings, Imperial Spain, Portugal and its empire, Portugal and Spain in transition, the republics, Salazar and Franco.

437. History of Germany 1871 to Present (3) F Bane, Raun
History of Germany from unification: the First World War, the Weimar Republic, the National Socialist Reich and the Post-War Recovery.

438. History of Marxist Thought (3) F Stuart
Survey of Marxist thought from the mid 19th century to the present. Intellectual precursors of Marxism; basic concepts of Marx and Engels; divergent paths of Marxism in the 20th century. No previous study of Marxism will be assumed but students will benefit from having some background in the history of western industrial societies.

439. Social History of Europe since 1800 (3) F Weber
The industrial revolution, the labor movement and forms of social protest; the transformation of class structure; mass communications and the new popular culture; education and social mobility in 20th century society.

Russian

341A. Foundations of Russia (3) F, S Springer
Evolution of the state structure, diverse cultural patterns, and social structures associated with ancient Kiev Russia: rise of Moscow, origins of autocracy and serfdom; westernization and modernization as problems during the Imperial period to 1801. Particular emphasis on social history.

341B. Modern Russia (3) F, S Raun
Interaction with the West from 1801; era of great reforms and revolutionary movements; downfall of Imperial Russia; establishment of the Soviet regime; chief political, social, economic and cultural developments in the Soviet era; role of the Soviet Union in world affairs.

441. Russian and Soviet Cultural History (3) F Raun, Springer
Cultural development of Russia from the beginning of massive westernization to the present; emphasis on values, attitudes and society as seen through literary sources, major developments in painting, music, social thought.

British

353. Tudor and Stuart England (3) F Kimball
New Monarchy; Renaissance and Reformation; rise of commercialism; capitalism; foundations of empire; age of Elizabeth I and Shakespeare; experiment in Divine Right Monarchy; triumph of Puritan, Parliament and Common Law; the age of the Puritan and Milton; the Restoration; and the beginnings of party and cabinet government.

355. Hanoverian England (3) S Kimball
Revolution of 1688, rise of party and cabinet government, Whig supremacy, Johnsonian England, Second Hundred Years War, agricultural and industrial revolutions, evangelical and humanitarian movements, England and the French Revolution, reaction and reform.

356. Victorian Britain (3) F Kimball
Special emphasis on economic and social conditions, classes and class conflict, intellectual ferment, advance of democracy, changing role of the state, imperialism and Britain's changing world position.

357. Recent Britain (3) S Kimball
Special emphasis on economic and social conditions, rise of the Labor Party, effects of two world wars, impact of communism and fascism, development of the welfare state and Britain's changing imperial and world position.

451A,B. British Empire and Commonwealth (3,3) F, S Faculty
British expansion overseas from the earliest times to the present. 451A deals with Irish plantations, Elizabethan sea dogs, trading companies and settlement colonies, mercantilism, wars for trade and commerce. Fall of the First Empire. 451B deals with rise of crown colonies and the colonial office, humanitarianism and free trade, evolution of Canada, New Zealand, Australia, and South Africa toward dominion status, British rule in India and tropical lands, rise of colonial nationalism.

455A,B. Constitutional and Legal History of England (3,3) F, S Kimball
Development of the English constitution and its elements—monarchy, parliament, church and the law—in the medieval and modern periods.

Latin American

362. Colonial Latin America (3) F Nichols, Svec
Iberian preparation for overseas expansion; discovery and conquest in America; evolution of colonial institutions; dynamic 18th century developments; Wars of Independence.

364. The Latin American Nations (3) S Sater, Svec
Political, economic, social and intellectual evolution of Latin America in the 19th and 20th centuries.

462. Mexico (3) F Nichols, Sater, Svec
Spanish conquest of Indian Mexico; settlement and exploration; colonial life and institutions; the achievement of independence from Spain; reform, foreign intervention, dictatorship in the 19th century; the Revolution of 1910 and after; contemporary Mexico. Not open to students with credit in History 462A or 462B.

463. The Caribbean Area (3) F Nichols
History of the West Indies, Central America and northern South America. Economic, political and cultural development of these regions and their relations with the United States.

464. Argentina (3) F Svec
Discovery and settlement, colonial institutions, democracy and dictatorship following independence, economic and social modernization, Peronism and its aftermath. Not open to students with credit in History 461.

465. Brazil (3) S Svec
Settlement of Brazil and the development of a tropical society; political, economic, social and cultural problems of the Empire and the Republics to the present day. Not open to students with credit in History 461.

467. Chile (3) F, S Sater
Indian background; imposition of Spanish Rule; development of colonial Chile; struggle for nationhood; freedom and anarchy; the autocratic republic; the liberal republic; the Parliamentary Republic; the Revolution of 1925 and its aftermath.

United States

372. United States: Colonial Period (3) F Buchanan, Walzer
Discovery and settlement of the new world; European institutions in a new environment; development of colonial government, economy and social institutions; European dynastic rivalry and colonial America.

373. United States: Age of Revolution (3) S Buchanan, Walzer
Clash between British attempts to control and tax the colonies and colonial distaste for both; growth of an independent spirit; the American Revolution; problems of the new nation; the Constitution.

374. United States: Early National Period (3) F Bernstein, McFaul
Establishing the federal government; origins of the party system; foundations of American foreign policy; and expanding economy; changing social scene; spread of democracy; national self-discovery.

375. United States: Jacksonian Democracy and Sectional Crisis (3) S Bernstein, McFaul
Social and economic expansion; rebirth and development of political parties; politics of slavery; Manifest Destiny and the Mexican War; growth of sectional feeling; the disruption of American democracy.

376. United States: Civil War and Reconstruction (3) F, S Ahlquist, Collins, Polakoff
Sectional rivalry, manifest destiny, mid-century divisive forces, Civil War and reconstruction.

377. United States: Emergence of an Industrial Society (3) F Black
Growth of American industry from the post-Civil War period to the close of the 19th Century, effect of industrialism on the businessman, farmer, laborer and politician, rise of the city and the characteristics of immigration.

378. United States: The Progressive Period and the Twenties (3) S Cerillo, Gunns
Progressive movement from Theodore Roosevelt's administration; its various manifestations and accomplishments on the city, state and national levels. Rise of America to world power. Analysis of the 1920s from an economic, social and political point of view.

379. United States: The Great Depression, War and Its Aftermath (3) F Gunns, Ragland
Depression and the beginnings of welfare democracy; United States in World War II; post-war problems and world affairs.

380. United States Since 1945 (3) F, S Bernstein, Burke, Gunns, Ragland
The United States in the nuclear age: the development of the Cold War and its domestic ramifications, the "post-industrial" economy, the civil rights revolution, the rise of political dissent, the Watergate affair, and after.

469. Ethnic Groups in Urban America: A Historical Examination (3) F, S Collins
An examination of the origin, migration, settlement and the assimilation problems of the various ethnic groups in major American cities since the late 19th century. Emphasis will be upon the economic, social, political and educational problems encountered by different groups attempting to adjust to urban life.

470. History of the American Party System (3) F, S Polakoff
Early American attitudes toward political parties, origins and historical development of the two-party system, focusing on three separate phases of party activity (Federalists versus Jeffersonian Republicans, Jacksonian Democrats versus Whigs, Republicans versus Democrats), one-party interlude of 1820s, important role played by minor parties (Antimasons, Prohibitionists, Populists, Progressives); course will draw heavily on recent historical studies of political leadership, party structures and voting patterns.

471A,B. History of the Westward Movement (3,3) F, S Hardeman, Peters, Williams
Analysis of the frontier experience of the American people; expansion across the American continent and its influences on American ideas and institutions; special attention given to explorations, movement of populations, effects of sectionalism and the geographical bases for American development.

472. History of the South (3) F Ahlquist, Polakoff
Survey of the economic, social, intellectual and political development of the South from colonial times, with emphasis on the period from 1820 to the present.

473A. Early California History (3) F Hardeman, Williams
Spanish and Mexican periods of California history. Political, economic and social development of California from its discovery and occupation by the Spanish to the middle of the 19th Century.

473B. Recent California History (3) S Hardeman, Williams
American period of California history; political organization, progressivism, recent political, social and cultural developments.

474. History of Cities in the United States (3) F, S Cerillo
Survey of urban America from the colonial period to the present, with emphasis on the process of urbanization, urban problems and politics. Not open to students with credit in History 474A,B.

475. Economic History of the United States (3) S Black
Study of forces, institutions and patterns in the economic life of the United States from the period of rapid economic development beginning in the nineteenth century through the Great Depression. Not open to students with credit in History 475A,B.

476A,B. Social History of the United States (3,3) F, S Berk, Stuart
Development of American society from the beginnings of settlement to the present, with particular emphasis upon the modification of European institutions in the American environment. Includes social structure, nature of the family, ethnic tensions, Americanization of the immigrant, the changing character of urban and rural life and the social background of major political events.

477A,B. Development of American Thought (3,3) F, S Berk, Higgins
History of the development of American ideals and attitudes from colonial times to the present. Consideration of changing views on such topics as the nature of God and man; political and social beliefs; and the role of reason and science in the good life.

478A,B. Diplomatic History of the United States (3,3) F, S Peters
American foreign relations since the Revolution, giving special attention to the concepts of manifest destiny, isolationism and the Monroe Doctrine; the increasingly important role of the United States in international affairs.

479A,B. Constitutional History of the United States (3,3) F, S Burke
Constitutional history in the chronological framework of American history from colonial beginnings to post-World War II. Emphasis on the sources of constitutional change in America—social, economic, intellectual, political—and on the ways constitutional government have influenced American society.

482. History of Religions in the United States (3) F, S Berk
Survey of major themes in the unique American religious experience. Topics of significance will include the adaptation of European Christianity to novel American circumstances, the proliferation of denominations and the varied religious response to a dynamic American society. (Same course as Religious Studies 482.)

485. History of American Women (3) F, S Faculty
Study of the changing role and status of women in American society from 1600 to the present. Emphasis will be placed on the similarities and differences in the position of women in various sub-cultures, on the roles of women at different economic levels and on past and present feminist movements.

486. History of the Afro-American in the United States (3) F, S Collins
Survey of the role of the Afro-American in American history from colonial times to the present, including the African heritage, nature of the American slave system, emancipation and the struggle for equal rights.

489. Legal History of the United States (3) F Burke
Development of law in America from colonial times to the present: English common law heritage, puritan and frontier influences, formative stages of American legal development and modern trends.

East Asian

382A. Imperial China (3) F Furth
Introduction to the classical civilization, stressing the evolution of imperial institutions, the Chinese world order and China's traditional cultural heritage. Not open to students with credit in History 482A.

382B. Modern China (3) S Furth
Chinese society since 1800. Impact of imperialism, reform and revolutionary movements, the background of Chinese communism. Not open to students with credit in History 482B.

383A. Traditional Japanese Civilization (3) F Sievers
Japanese civilization from its origins to the 19th Century. Emphasis on intellectual and cultural developments on the selective adoption and modification of Chinese culture. Not open to students with credit in History 483A.

383B. Modern Japan (3) S Sievers
Japan from the late Tokugawa period to the present. Western impact on traditional Japan and the Japanese response; the development of a modern state; liberalism and totalitarianism; the rise and fall of imperialism. Not open to students with credit in History 483B.

487. Intellectual History of Recent Japan (3) F, alternate years Sievers
Prerequisite: History 181B or 383B or consent of instructor. Japanese thought on the eve of the Meiji Restoration; response of Japanese intellectuals to industrialization; role of Emperor-centered ideology in Japan since 1868; socialism and communism in Japan.

488. The Chinese Revolution (3) F, alternate years Furth
Prerequisite: History 181B or 382B or consent of instructor. Traditional peasant revolts, the Taiping and Wuchang uprisings; the Nationalist and Communist revolutions; westernization and cultural revolution since 1898.

South Asian

385A. The Early History of India (3) F Lipski
History of the Indian subcontinent from the time of the Indus Valley civilization through the Mughal empire; the impact of invasions, from the Aryans to the Moslems; formation and diffusion of Hindu culture; emphasis on social and intellectual history. Not open to students with credit in History 485A.

385B. History of Modern India (3) S Lipski
Impact of the West on India since the 16th Century; the British period, Indian renaissance and independence movements; India and Pakistan since independence. Not open to students with credit in History 485B.

481. Modern Hindu Religious Thought (3) S Lipski
Western impact on traditional Hinduism, Renascent Hinduism. Worldwide significance of contemporary Hindu thought. (Same course as Religious Studies 481. To be taught by History.)

Interdisciplinary and Comparative History

401. History of Women in Cross-Cultural Perspective (3) S Faculty
Comparison of how different social and cultural systems have affected the changing historical roles of women. Analysis of women's work roles, social status and political participation in selected developed and undeveloped Western and Asian, capitalist and socialist societies. Area emphasis to vary from semester to semester. Independent student research projects. Open to all qualified men and women.

402. History of the Working Classes in the Western World (3) S Stuart, Weber
Comparative examination of the development of the working classes in modern western societies. Emergence of the classes during the period of industrialization; comparative social standing; nature of working class culture; growth of working class economic and political organizations; working class ideologies.

403. Twentieth Century Idealists (3) F Lipski
Lives, thoughts and activities of significant twentieth century proponents of non-materialistic world views, including Jung, Merton, Gandhi, Toynbee and Tagore. Their impact upon contemporary society and their cross-cultural influences will be emphasized. Same course as Religious Studies 403.

405. Environmental History (3) F Hood
Historical attitudes toward the natural environment with emphasis on rise of the conservation movement. Explores relationship between the wilderness and man, its history, meaning and management. Course will include case studies and a wilderness field trip.

494. History of Science: Selected Topics (3) S Gosselin, Lerner
Interdisciplinary introduction to the history of science for scientists and non-scientists. Evolution of the scientist's view of the means and ends of his own activities. Two-way interactions of these views with more general contemporary ideas and attitudes. May be repeated with consent of instructor up to a maximum of six units. (Same course as Physics 494.)

General

399. Publication of The History Teacher (1-6) F, S Bane, Cerillo
Prerequisite: Consent of instructor. Participation in the publication of a scholarly historical journal, *The History Teacher*. This laboratory/internship experience will allow students to apply the various skills, methodologies and strategies of research, stylistic criticism and teaching to production and planning of a professional historical journal, from conceptual stage to publication and distribution of several issues. Recommended for those considering careers outside the normal limits of teaching. May be repeated to a maximum of six units.

490. Special Topics in History (1-3) F, S Faculty
Prerequisite: Consent of instructor. Topics of current interest in history selected for intensive development. May be repeated with different topics to a maximum of six units, but no more than three units may be used to satisfy the requirements for the major. Topics will be announced in the *Schedule of Classes*.

491. Modern and Contemporary Africa (3) S Collins
Conquest of Africa by European states, contrasting colonial systems as they evolved, anti-colonial movements and progress towards self-government or independence, problems of economic and political development, and race tensions in areas of white settlement. Not open to students with credit in History 491B.

495. Colloquium (3) F, S Faculty
Prerequisite: Consent of instructor. Analysis and interpretation of significant documents and works of history. Individual works discussed will center about a general theme selected by the instructor. May be repeated with different topics to a maximum of six units, but no more than three units may be used to satisfy the requirements for the major.

498. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Independent study under the supervision of a faculty member. May be repeated up to six units.

499. Historians and Historiography (3) F, S Faculty
A critical study of the nature of history and the writings of historians.

Graduate Division

510. The Literature of History (3)

520. Select Problems in History (3)

611. Seminar in Ancient History (3)

612. Seminar in Medieval History (3)

631. Seminar in European History (3)

641. Seminar in Russian History (3)

651. Seminar in British History (3)

661. Seminar in Latin American History (3)

672. Seminar: The United States to 1900 (3)

673. Seminar in Twentieth Century United States (3)

682. Seminar in East Asian History (3)

683. Seminar in South Asian History (3)

695. Directed Readings (1-3)

697. Directed Research (1-3)

698. Thesis (1-4)

Human Development

Director: Norma Bernstein-Tarrow.

Human development is an interdisciplinary program designed to provide students with a fundamental understanding of human growth and development throughout the life cycle. Concentration is on the psychological, socio-cultural and biological dimensions of human development, and on the underlying processes and structures which support that development from conception through old age.

307. Prenatal Development through Early Adolescence (3) F Faculty
Prerequisites: Psychology 100, Biology 107 or 207, Anthropology 120 or Sociology 100, junior standing, consent of instructor. Biological, psychological and sociocultural aspects in the maturation of the individual from conception through early adolescence will be considered. Relevant topics and theoretical issues will be treated in an interdisciplinary manner under leadership of experts in the fields involved. Not open to students with credit in Nursing 307.

357. Development from Adolescence through Aging (3) S Faculty
Prerequisite: Human Development 307 or Nursing 307. Biological, psychological and sociocultural aspects in the maturation of the individual from late adolescence or youth until death will be considered. Relevant topics and theoretical issues will be treated in an interdisciplinary manner under the leadership of experts in the fields involved. Not open to students with credit in Nursing 357.

401. Cultural Influences on Human Development (3) F Faculty
Prerequisites: Human Development 307, 357. Study of how an individual's ethnic membership relates to various aspects of growth and development; the effects of culturally related influences on total development. Discussion and selected observations of individuals from diverse cultural backgrounds. (Lecture-discussion 3 hours.)

International Student Programs

International student programs include courses for students whose cultural background is different from that of the United States or for whom English is a second language. There are two types of courses: Foreign Student courses which give general education credit for foreign students who will be returning to their country after graduation and American Language Program courses which give language instruction for both foreign and immigrant students.

For admission requirements, including the Test of English as a Foreign Language (TOEFL), see section on admissions.

Foreign Student Classes

Courses in American culture and institutions are available for students from foreign countries. Foreign Students 205A-B meets the university's general education requirements in United States history, government and Constitution for students not permanently residing in the United States. Permission to register for these classes is granted by the International Education Center.

American Language Program

The American Language Program is a series of semi-intensive courses in English as a second language. For further information and course descriptions see the School of Humanities.

Foreign Student Courses

Lower Division

105. Introduction to American Higher Education (3) F, S Faculty
Orientation to the American campus and classroom. Review of the American systems of education, including goals and the degree process. Familiarization with contemporary social and educational problems. Limited to students for whom the U.S. is a foreign country and culture.

205A-B. Introduction to America, Its History, Government and People (3,3) F, S Faculty
Development of the political and social structures of America. Emphasis on the events which have influenced the shape of the United States. Limited to foreign visa students intending to return to their homeland upon graduation. Students must enroll for both semesters for credit.

Upper Division

305. Introduction to American Higher Education (3) F, S Faculty
Orientation to the American campus and classroom. Review of the American systems of education, including goals and the degree process. Familiarization with contemporary social and educational problems. Limited to students for whom the U.S. is a foreign country and culture.

Foreign Study Programs

Foreign study courses are offered as summer session or as extension classes through the Summer Session Office or the Continuing Education Office respectively. Particular programs are described in the *Summer Session Bulletin Schedule* or in *Operation Outreach*, the Extension schedule, and in separate announcements. Each one appears as an offering of the course(s) Foreign Study 100, 200, 300 or 400 (1-6 semester units), with the particular departmental sponsorship specified for each class. Credit earned in a summer session offering of the course is credit earned "in residence". Credit earned in an extension offering of the course is "extension credit". A student may apply no more than 12 units of credit in such foreign study courses toward a baccalaureate degree. Such courses may not be used to meet requirements for a major except with the approval of the major department. Foreign study courses are separate and distinct from International Programs, The California State University and Colleges "Year Abroad."

17—76763

Latin American Studies

Director: W. Svec.

Professors: W. Atherton, Ph.D.; D. Cárdenas, Ph.D.; B. DeLong-Tonelli, Ph.D.; R. Delorme, Ph.D.; K. Dixon, Ph.D.; F. Donahue, Ph.D.; R. Inostroza, Ph.D.; H. Key, Ph.D.; T. McCorkle, Ph.D; J. Marin, Ph.D.; T. Nichols, Ph.D.; D. Osborne, Ph.D; J. Powell, Ph.D.; W.R. Svec, Ph.D.; F. Trinidad, Ph.D.; J. Weaver, Ph.D.

Associate Professors: A. Archuleta, Ph.D., J. Contreras, M.S.; J. Gregory, Ph.D.; R. Harman, Ph.D.; K. Jones, M.A.; R. Osuna, M.A.; F. Sanchez, M.A.; W. Sater, Ph.D.

Assistant Professors: H. Cannon, Ph.D.; M. Farrell, Ph.D; J. Lopez, M.A.; G. Ramirez, Ph.D.; J. Schmitt, Ph.D.

Latin American Studies administers an interdisciplinary program which offers students interested in this field the opportunity to pursue courses leading to a Certificate in Latin American Studies. Courses used to meet this certificate requirement may be counted also, where applicable, toward the General Education requirement and the major and teaching minor requirements of the cooperating departments.

Students interested in pursuing a master's degree emphasizing Latin American studies should read the section in the *Graduate Bulletin* entitled Special Major (Interdisciplinary Studies) and consult the Director of Latin American Studies.

Requirements for the Certificate in Latin American Studies

1. A bachelor's degree with a major in a traditional discipline.
2. 26 units distributed as follows:
   (a) Spanish 201A,B (4,4).
   (b) *Core* (required of all students) of 12 units: three units of anthropology selected from Anthropology 323, 324, 325 or 345, three units of geography selected from Geography 321 or 322, three units of history selected from History 160A, 160B, 362, 363 or 364, three units of political science selected from Political Science 350, 351, 352 or 365.

   (c) *Electives* totaling six units *from fields other than the student's major* selected in consultation with an adviser from the following (cannot duplicate courses taken in the core): Anthropology 323, 324, 325, 345; Art 393A-B; Economics 363; Geography 321, 322; History 160A,B, 362, 363, 364, 433, 462A,B, 463, 464, 465, 466, 467, 473A; Mexican American Studies 305A-B, 312, 380, 400, 420, 425; Political Science 350, 351, 352, 365; Spanish 312, 313, 314, 337, 338, 411, 440, 445, 450, 451, 457 and courses in Spanish literature as permitted.

Interested students should apply to the Director of Latin American Studies.

Legal Studies in the Liberal Arts

The Certificate Program in Legal Studies in the Liberal Arts is designed to promote an interdisciplinary study of law as a liberal art. The certificate may be earned in conjunction with any baccalaureate degree. It is especially useful to students preparing for careers in government service, business, journalism and education. Courses selected by the student for the certificate may be the same as those used to satisfy major, minor, credential or general education requirements. The program does not duplicate professional legal or para-legal education, nor does it equip a person to practice law. It is not the prescribed prelaw program of the University although prelaw students may elect to earn the certificate as part of a total prelegal program advised by their counselors.

Requirements for the Certificate in Legal Studies in the Liberal Arts

1. A baccalaureate degree.
2. A cumulative grade point average of 3.0 in all courses in the student's approved certification program.
3. Twenty-one units which must include History 489, Political Science 318 or 414, Philosophy 351 or 352 and at least 12 additional units selected from the secondary and specialized courses listed below. The 21 units must include courses from a minimum of five departments. No more than 12 units may be in the candidate's major.
4. Project paper (3 units). To be written ideally upon completion of all course work or during the last semester of the senior year, under the supervision of at least two faculty members participating in the certificate program.
   The paper can be either an exploratory project (in which a subject is researched in a detailed and original manner) or an analytic effort (where fewer sources are used but the discussion of the material is developed more fully).

It is strongly recommended that students take required courses first and then elective courses. The choice of electives is unrestricted: they may all be secondary or all specialized courses. The selection of electives should be made in consultation with an adviser who helps prepare a program. Thus the plan of study should have a focus and be directed toward the subject on which the student will write in the research paper.

Secondary courses: Anthropology 303, 403; Economics 430; History 455A,B, 479A,B; Political Science 314, 315, Sociology 335 (or Psychology 351), 441.

Specialized courses: Criminal Justice 301, 351; Economics 340, 440; Political Science 376, 395, 424; Finance 222, 324, 326, 444.

Interested students should apply to the Director, Program for Legal Studies in the Liberal Arts, Dr. Albie Burke, History Department.

Political Science

Department Chair: Dr. Ronald J. Schmidt.

Professors: Chawla, Cohen, Delorme, Hardy, Hayes, Kacewicz, Leiter, Lien, Marsot, Trombetas, Urquhart, Weaver.

Associate Professors: Ridder, P. Schmidt, R. Schmidt, Sherain, Soe, Steiner, Stevens.

Assistant Professors: Rocha, Scott.

Credential Adviser: Dr. Irving Ahlquist (History Department).

Academic Advising Coordinator: Dr. Ronald J. Schmidt.

The political science major is designed to provide the student with a systematic knowledge of the nature and scope of political science. A student may elect to major in political science as a preparation for such fields as: (1) college or university teaching, (2) law, (3) government career service, (4) foreign career service, and (5) politics. In addition, a political science major is preparation for general education, good citizenship and participation in political life. Students interested in the fields mentioned above should consult with an adviser to secure aid in planning their programs.

General Education Requirement in Government

The Education Code requires each college graduate to meet (1) a federal government requirement and (2) a California state and local government requirement. Both of these requirements can be met by Political Science 100 (for lower division students) or Political Science 391 (for upper division students).

If the student has completed the federal government requirement, but not the California State and local government requirement, the student should take Political Science 326. Students who have taken American federal, state or local government at another institution should check with the political science faculty before enrolling.

Major in Political Science for the Bachelor of Arts Degree (code 2-8536)

Lower Division: Political Science 100, 201 and either 210 or 215.

Upper Division: A minimum of 27 units distributed as follows:

(a) Three units from four of the following six areas:
International Relations: 371, 376, 378, 482, 483, 484, 486.

Comparative Politics: 353, 354, 356, 357, 358, 359, 361, 362, 364, 366, 367, 368, 455, 459, 461.
Political Theory: 301, 302, 303, 304, 306, 308, 403, 407.
Public Law: 314, 315, 318, 412, 414, 415.
Politics and Policy Formation: 320, 322, 326, 327, 328, 420, 422, 423, 424, 426, 428.
Public Policy and Administration: 331, 334, 336, 338, 340, 343, 346, 348, 442, 447, 448.

(b) Nine units from a fifth area including either 409, 419, 429, 449, 469 or 489.

(c) Six units of electives which may include 494, 497, 498 and 499.

Major in Political Science for the Bachelor of Arts Degree with an Option in Public Administration (code 2-8540)

Lower Division: Political Science 100, 201 and either 210 or 215; three units of economics and three units of statistics from an approved list of courses available in the department.

Upper Division: A minimum of 30 units distributed as follows:

(a) Three units from each of four of the following areas:
International Relations: 371, 376, 378, 482, 483, 484, 486.
Comparative Politics: 353, 354, 356, 357, 358, 359, 361, 362, 364, 366, 368, 455, 459, 461.
Political Theory: 301, 302, 303, 304, 306, 308, 403, 407.
Public Law: 314, 315, 318, 412, 414, 415.
Politics and Policy Formation: 320, 322, 326, 327, 328, 420, 422, 423, 424, 426, 428.

(b) Twelve units from the area of public policy and administration: 331, 334, 336, 338, 340, 343, 346, 348, 442, 447, 448 (331 and 490G are required).

(c) Six units of electives in political science which may include 494, 497 and 499.

Minor in Political Science (code 0-8536)

A minimum of 21 units which must include:

Lower Division: Political Science 100 or 391, 201.

Upper Division: Five courses selected from Political Science 308, 314, 322, 326, 331, 353 or 371.

Minor in Public Administration in Political Science (code 0-8540)

A minimum of 21 units which must include:

(a) Political Science 331.

(b) Nine additional units selected from Political Science 334, 336, 338, 340, 343, 346, 348, 442, 447, 448, 449.

(c) Six additional units selected from the following: Political Science 320, 322, 326, 327, 328, 420.

(d) Three elective units from any area in political science in consultation with an adviser.

Master of Arts Degree in Political Science

Master of Arts Degree in Asian Studies

Programs of study leading to the master of arts degree in political science and the interdisciplinary master of arts degree in Asian studies are offered. For detailed information concerning requirements see the *Graduate Bulletin.*

Lower Division

100. American Political Institutions (3) F, S Faculty
Survey of United States national, state and local governments with attention to unique aspects of California government. This course satisfies the general education requirement and the California teaching credential requirement.

201. Introduction to Political Science (3) F, S Faculty
Introduction to the principles of political science. Major terms, concepts, functions and institutions relating to the processes of politics. Not open to students with credit in Political Science 109 or 200A.

210. Issues of American Politics (3) F, S Faculty
Prerequisite: Political Science 100. Intensive study of issues associated with the concepts of democracy, limited government, federalism, separation of powers, judicial review and preservation of individual rights. Not open to students with credit in Political Science 110.

215. Issues of Comparative Politics (3) F, S Faculty
Intensive study of issues associated with selected foreign governments, modernization, revolution, political change and world ideological conflict. Not open to students with credit in Political Science 200B.

220. National Diversity in World Politics (3) F, S Steiner
Divergences between nations as they affect political differences between states. The political significance of the encounter of individuals with those of different nationalities.

297. Sophomore Colloquium (3) F, S Faculty
Prerequisites: Consent of instructor, sophomore standing, nine units of lower division political science. Analysis of significant, contemporary political problems.

Upper Division

Political Theory

301. (370.) Classical Political Theory (3) F Scott, Urquhart
Critical examination of Western political philosophy from Plato to the 16th century. Emphasis on major political philosophers. Not open to students with credit in Political Science 370.

302. Medieval and Renaissance Political Thought (3) S Scott
Examination of Western political ideas originating in Medieval and Renaissance socio-political development beginning with Saint Augustine. Canon and civilian legal thought, the impact of Aristotle via Arabic sources, and the mergent nation-state will be examined.

303. (380.) Modern Political Theory (3) F, S Urquhart
Critical examination of western political theory from the 16th century to the 19th. Emphasis upon major political theorists. Not open to students with credit in Political Science 380.

304. Recent Political Theory (3) F, S Scott
Dominant concepts, theories and theorists of the late 19th and 20th centuries: Marx, Nietzche, Freud, Dewey, Camus.

306. (385.) Contemporary Political Ideologies (3) F Scott, Soe
Development and change in the major political ideologies of the 20th Century, including communism, corporatism, fascism, liberalism and socialism. Not open to students with credit in Political Science 385.

308. (375.) American Political Theory (3) S Scott
Critical examination of theorists, concepts and forces which have shaped American political consciousness from the Puritans to the present. Not open to students with credit in Political Science 375.

403. (393.) Great Political Thinkers (3) S Scott
Prerequisites: Six units of political theory recommended. Individual political thinkers, such as Plato, Aristotle, Machiavelli or Nietzsche will be chosen each semester for intensive study. Not open to students with credit in Political Science 493 or 393.

407. (390.) Asian Political Theory (3) S Chawla, Marsot
Traditional and modern political thought with major emphasis on the developments of modern ideologies. Not open to students with credit in Political Science 390.

409. (490C.) Proseminar in Political Theory (3) F, S Faculty
Prerequisites: Six units in political theory courses, consent of instructor. Intensive study of selected conceptual and theoretical problems in political theory. Not open to students with credit in Political Science 490C.

Public Law

314. (400.) Constitutional Development: Rights (3) F, S Hayes, Lien, Sherain
Prerequisite: Political Science 100 or 391 or equivalent. Analysis of the rights and guarantees contained in the Bill of Rights and other constitutional and statutory provisions with leading cases. Not open to students with credit in Political Science 400.

315. (405.) Constitutional Development: Power (3) F, S Hayes, Lien, Sherain
Prerequisite: Political Science 100 or 391 or equivalent. Power of the courts in interpreting and enforcing constitutional limitations in order to maintain the separation of powers, the division of powers between the national government and the states and establish governmental power to tax, spend, regulate commerce and conduct foreign relations with reference to leading cases. Not open to students with credit in Political Science 405.

318. (411.) Modern Legal Systems (3) F Hayes
Nature of law, public and private, with emphasis upon cases and materials illustrating the development of Anglo-American legal institutions and processes. Background for the professional study of law. Not open to students with credit in Political Science 411.

412. (408.) Law and Social Change (3) F, S Sherain
Issues currently being dealt with in the American legal system (e.g., busing, affirmative action, problems of the environment, sexual discrimination). Examination of both the courts' part in creating these problems and the degree to which the courts have the potential to correct them. Not open to students with credit in Political Science 408.

414. Jurisprudence (3) S Sherain
Fundamental legal philosophies, sources and classifications of law. Relationship of law to other disciplines and societal institutions.

415. Elements of Roman Jurisprudence (3) F Trombetas
Growth and development of Roman law and its principles from the historical, legal and philosophical points of view. Not open to students with credit in Political Science 395.

419. (490D.) Proseminar in Public Law (3) F, S Faculty
Prerequisites: Six units in public law courses, consent of instructor. Intensive study of selected conceptual and theoretical problems in public law. Not open to students with credit in Political Science 490D.

Politics and Policy Formation

320. (445.) Conduct of Political Inquiry (3) S Stevens
Problems of data collection and analysis. Impact of research methods on findings. Not open to students with credit in Political Science 495 or 445.

322. (430.) Political Parties (3) F, S Hardy, Stevens
Organization, functions and practices of political parties in the United States with special emphasis on California parties. Analysis of the part the political parties play in government and the importance of the two-party system in American government. Party responsibility in the United States in comparison with parties in other countries. Not open to students with credit in Political Science 430.

326. (425.) State Government (3) F, S Delorme, Leiter
Political structure and its operation, state-federal relations, state-local relations; particular emphasis on California. Not open to students with credit in Political Science 425.

327. (427.) American Local Government: Organization and Problems (3) S Leiter, P. Schmidt
Functions and problems of counties, cities, towns and special districts. Emphasis will be placed on the approach by local governments to such problems as poverty, conservation, minority tensions, housing, transportation and crime. Not open to students with credit in Political Science 427.

328. (450.) Politics of Public Policy (3) S Leiter
Analysis of major contemporary United States domestic policies including agriculture, income maintenance, economic regulations, manpower training, conservation, crime control and revenue-sharing. Not open to students with credit in Political Science 450.

420. Voting, Campaigns and Elections (3) F, S Stevens
Analysis of factors influencing citizen's voting choices; methods used by candidates seeking electoral support; changes and trends in American elections.

422. (432.) Public Opinion (3) F, S Stevens
Formation and development of public opinion; methods of measuring public opinion in the political system. Not open to students with credit in Political Science 432.

423. The American Presidency (3) S Leiter
Roles and powers of the American presidency.

424. (440.) The Legislative Process (3) S Hardy
Historical development of the legislature; functions of legislatures; organization and procedure of typical legislative bodies; current legislative and legislation trends; problems and principles of lawmaking. Special emphasis on the California legislature. Not open to students with credit in Political Science 440.

426. Urban and Regional Political Systems (3) F P. Schmidt
Multijurisdictional governmental activities with emphasis on experience in the United States. Federal regional policies for rural and urban areas. Cooperative federalism.

428. (441.) Political Behavior (3) F Stevens
Introduction to the socio-psychological basis of individual political behavior. Emphasis upon political socialization, political culture and personality as explanations of political participation, the development of political values and political action. Not open to students with credit in Political Science 441.

429. (490F.) Proseminar in Politics and Policy Formation (3) F, S Faculty
Prerequisites: Six units in politics and policy formation courses, consent of instructor. Intensive study of selected conceptual and theoretical problems in policy formation and politics. Not open to students with credit in Political Science 490F.

Public Policy and Administration

331. (460.) Introduction to Public Administration (3) F Rocha, R. Schmidt
Principles and practices of federal, state and local administration. Not open to students with credit in Political Science 460.

334. (462.) Public Organization and Management (3) F Faculty
Theories of organization and management with emphasis on their relation to administrative problems in civilian and military spheres of American government. Not open to students with credit in Political Science 462.

336. (471.) Public Personnel Administration (3) S Rocha
Survey of public personnel administration, including the growth and development of the civil service, the personnel agency, recruitment procedures, position classifications, training programs, employee organizations and retirement systems. Not open to students with credit in Political Science 471.

338. (475.) Public Financial Administration (3) F Faculty
Role of the modern budgetary process in the determination of policy, administrative integration, control of government operations, intergovernmental relations and relation to private economy. Not open to students with credit in Political Science 475.

340. (487.) Administration of Health Care (3) F Weaver
Institutional factors, professional considerations and external pressures that effect the administration of health care systems. Role of the administrator in hospitals, health maintenance organizations, clinics and other delivery systems. Not open to graduate students. Not open to students with credit in Political Science 487.

343. (453.) Politics of Health (3) S Weaver
The interest groups and political forces which shape public policy in the health area. Analyzes the elites (e.g., the American Medical Association), the industrial and social interests, and public bureaucracies as reflected in the passage and administration of health legislation. Not open to students with credit in Political Science 453.

346. (465.) Administrative Justice and Law Making (3) S Faculty
Process by which administrative agencies decide quasi-judicial cases involving private rights, and make rules and regulations of a quasi-legislative nature affecting private rights with reference to leading judicial decisions. Not open to students with credit in Political Science 465.

348. (485.) Comparative Public Administration (3) F Weaver
Theories, models, structure and function of public administration in selected countries. Not open to students with credit in Political Science 485.

442. (481.) Planning and the Public Interest (3) F P. Schmidt
Public planning as a decisional and allocative activity. Local, State and Federal programs and policies, with special reference to planning in urban regions, role of the planner in society, social consequences of planning. Not open to students with credit in Political Science 481.

447. (491.) Public Administration Trainee Program I (3) F Faculty
Prerequisite: Consent of instructor. Internships in one of the various federal, state or local governmental units in the immediate area. Not open to students with credit in Political Science 491.

448. (492.) Public Administration Trainee Program II (3) S Faculty
Prerequisite: Consent of instructor. Internships in one of the various federal, state or local governmental units in the immediate area. Not open to students with credit in Political Science 492.

449. (490G.) Proseminar in Public Policy and Administration (3) F, S Faculty
Prerequisites: Six units in public policy and administration courses, consent of instructor. Intensive study of selected conceptual and theoretical problems in public policy and administration. Not open to students with credit in Political Science 490G.

Comparative Politics

353. (330.) Government and Politics of Western Europe (3) F, S Soe, Trombetas
Governments of representative European democracies, with emphasis on governmental structure, functions and political processes and their relationship to current problems. Not open to students with credit in Political Science 330.

354. (333.) Government and Politics of Scandinavian Countries (3) F, S Soe
Comparative study of the politics of the Scandinavian "social democracies" with particular emphasis on political structures, processes and development in Sweden. Cross-national comparisons with the political systems of other West European countries and the United States. Not open to students with credit in Political Science 333.

356. (335.) Government and Politics of the USSR (3) F, S Kacewicz
Investigation of the Soviet structure of government and theory, legitimacy and practice of the Communist Party from its revolutionary beginnings to the present. Development of Soviet ideology and Marxist theory. Not open to students with credit in Political Science 335.

357. (337.) Governments of Eastern Europe (3) S Kacewicz
Recent political, economic, constitutional, governmental and interbloc developments in Eastern Europe. Emphasis on the separate roads to Communism and Communist internationalism. Not open to students with credit in Political Science 337.

358. (351.) Contemporary Latin American Politics (3) F Delorme
Role and characteristics of major socio-political groups; major problems of development and underdevelopment. Not open to students with credit in Political Science 351.

359. (350.) Latin American Comparative Political Systems (3) S Delorme
Government and politics of selected Latin American countries, including Mexico and Cuba, with special attention on revolution *vs.* evolution in the quest for modernization. Not open to students with credit in Political Science 350.

361. Canada and the United States (3) F Soe
Comparative study of society and politics in the two North American countries. Emphasis on national development, constitutional framework and governmental process. Significant political forces and aspects of public policy. Special attention also to the politics of the French Canadian cultural minority and to Canadian perceptions of the relationship with the United States.

362. (341.) Society and National Politics of China (3) F Chawla, Marsot
Developments in government, parties, process of elections and political ideology of China. Not open to students with credit in Political Science 341.

363. Society and National Politics of Japan (3) On demand Marsot
Modern developments in government, parties, process of elections and political ideology of Japan.

364. (345.) Society and National Politics of India (3) F Chawla, Marsot
Developments in government, parties, process of elections and political ideology in India. Not open to students with credit in Political Science 345.

366. (347.) Government and Politics of Southeast Asia (3) S Marsot
Emergence and development of the contemporary political systems of Southeast Asia. Not open to students with credit in Political Science 347.

367. (355.) Governments and Politics in the Near and Middle East (3) F, S Marsot, Trombetas
Comparative study of political systems in the Near and Middle East with special emphasis on their political forms, governmental and social structure. Not open to students with credit in Political Science 355.

368. (360.) Governments and Politics of Sub-Sahara Africa (3) F, S Faculty
Government and politics of leading and representative Sub-Sahara African states with emphasis on development of temporary leadership, political institutions and ideologies. Not open to students with credit in Political Science 360.

455. Comparative Revolutionary Change (3) S, 1979 and alternate years Kacewicz
Roots of revolution. Emphasis on the historical setting, ideology, socio-economic factors, political leadership, organization and nationalism. Analysis of revolutionary conditions, courses and tactics past and present.

459. (352.) United States–Latin American Relations (3) F Delorme
United States policies toward Latin America and the political, economic, social and cultural effects of these policies on Latin American societies. Motivating factors behind U.S. policy. Not open to students with credit in Political Science 352.

461. (365.) The Politics of Development (3) F, S Chawla, Marsot, Weaver
Problems of political development in the emergent nations of Asia, Africa and Latin America. Not open to students with credit in Political Science 365.

469. (490B.) Proseminar in Comparative Politics (3) F, S Faculty
Prerequisites: Six units of comparative politics courses, consent of instructor. Intensive study of selected conceptual and theoretical problems in comparative politics. Not open to students with credit in Political Science 490B.

International Relations

371. (300.) Introduction to International Politics (3) F, S Chawla, Cohen, Ridder, Steiner
Interaction of "great powers"; the influence of balance of power, imperialism, prestige, and the preservation of the *status quo* in the international sphere. Not open to students with credit in Political Science 300.

376. (305.) Introduction to International Law (3) F Ridder
Nature and historical development of international law. Determination of rules of international law. International community under law. Recognition of states and governments. Jurisdiction. Settlement of international disputes. War aggression and neutrality. Not open to students with credit in Political Science 305.

378. (307.) International Organization and Administration (3) S Ridder
Examination of historical development, of international organization from the Concert of Europe to the United Nations. Analysis of contemporary international organization, its functions, problems and prospects in the context of the world situation. Not open to students with credit in Political Science 307.

482. (311.) American Foreign Policy (3) S Cohen, Steiner
Prerequisite: Political Science 371. Systematic study of the foreign policy of the United States. Contemporary problems will receive special emphasis. Not open to students with credit in Political Science 311.

483. (312.) Foreign Policies of the Major Powers (3) F Cohen
Systematic examination of the national interests and foreign policies of the major world powers in terms of global political problems. Recommended: Political Science 371. Not open to students with credit in Political Science 312.

484. (313.) Soviet Foreign Policy (3) F Kacewicz
Soviet foreign policy since 1917—its origins, evolution, dynamics and objectives in selected areas of the world. Not open to students with credit in Political Science 313.

486. (321.) National Security Policies (3) F, S Steiner
Analysis of strategic posture with emphasis on military, political and economic interrelationships as they influence national security and international politics. Not open to students with credit in Political Science 321.

489. (490A.) Proseminar in International Relations (3) F, S Faculty
Prerequisites: Six units of international relations courses, consent of instructor. Intensive study of selected conceptual and theoretical problems in international relations. Not open to students with credit in Political Science 490A.

General

391. (421.) American Government (3) F, S Faculty
Formation of the Constitution, federalism, civil liberties, politics, the legislature, executive, judiciary, state and local government. This course satisfies the federal, state and local government requirement. Not open to students with credit in Political Science 100.

494. Politics of the Future (3) S Marsot
Study of present-day global problems: overpopulation, depletion of resources, environmental decay and their future political implications. Examination of alternative policies, future politics and institutional change. The technological revolutions and the totalitarian temptation.

497. Special Topics (3) F, S Faculty
Prerequisite: Consent of instructor. Analysis of selected contemporary issues and problems. May be repeated for a maximum of six units with different topics. Topics to be announced in the *Schedule of Classes*.

498. Practicum in Politics (1-3) F, S Faculty
Prerequisite: Consent of instructor and department chairperson. Political or governmental experience supplemented by reading and research under the direction of a faculty member. May be repeated for a maximum of six units. No more than three units may apply toward the major in political science. Not open to students with credit in Political Science (491) 447 and/or (492) 448.

499. Readings and Conference in Political Science (1-3) F, S Faculty
Prerequisite: Consent of instructor. Directed reading to permit independent pursuit by advanced students on topics of special interest. Hours to be arranged. Graduate students who have had this course as an undergraduate may repeat it.

Graduate Division

553. Politics of Health (3)

587. Administration of Health Care (3)

600. Seminar in International Politics (3)

610. Seminar in Comparative Government (3)

620. Seminar in Political Theory (3)

630. Seminar in Public Law (3)

640. Seminar in American Government (3)

645. Seminar in Metropolitan Politics (3)

650. Seminar in Politics (3)

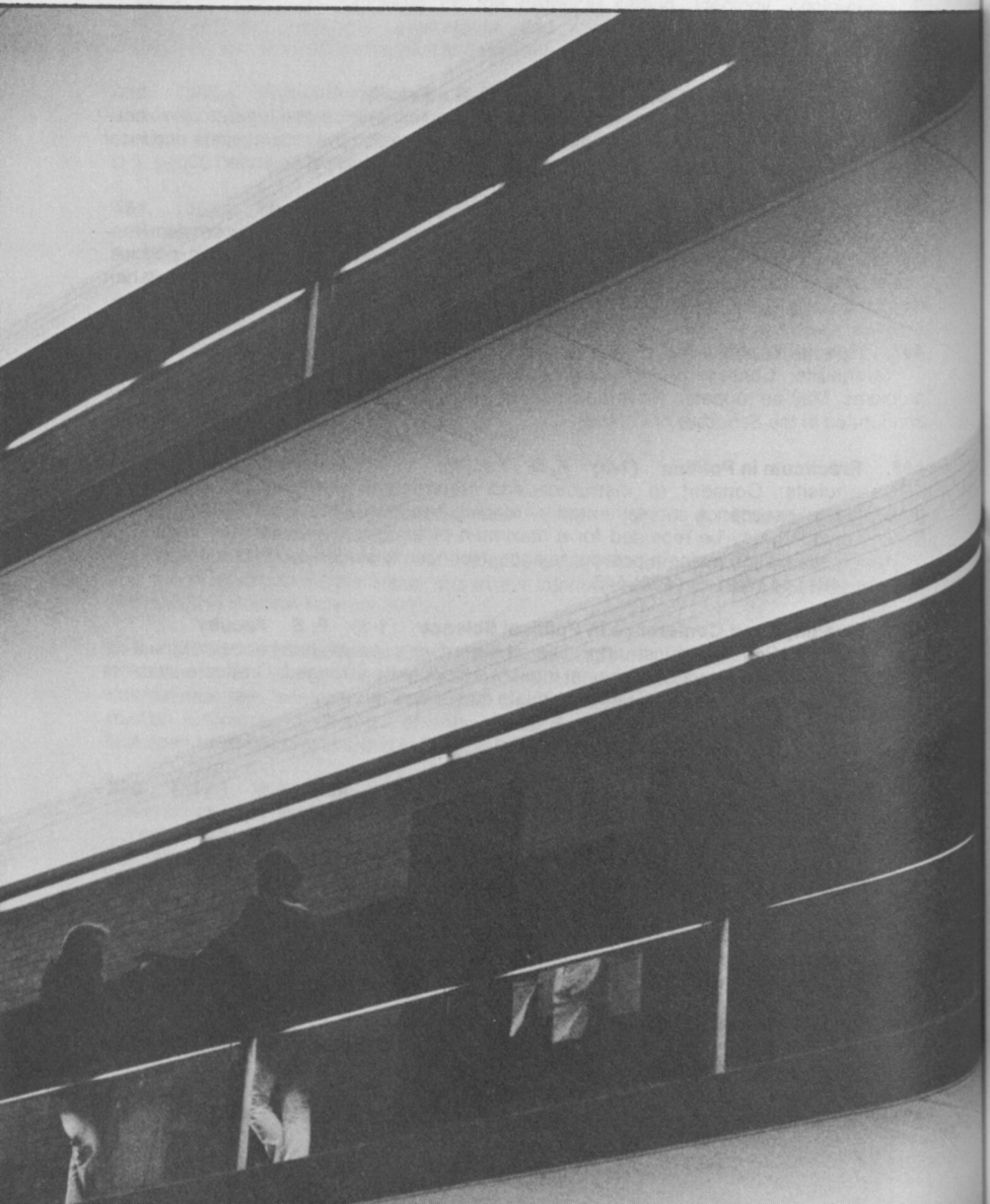
655. Seminar in Legislation (3)

660. Seminar in Public Administration (3)

665. Seminar in Bureaucracy (3)

697. Directed Research (1-3)

698. Thesis (1-4)



Psychology

Department Chair: Dr. Raphael M. Hanson.

Professors: Bradley, Carlson, Creamer, Danson, DeHardt, Fiebiger, Green, Hanson, Haralson, Heintz, Hommel, Jarrett, Jung, Kapche, Linden, Lindner, McClelland, Mason, Newman, Nygaard, Petersen, Raine, Resch, Rhodes, Thayer, Towner.

Associate Professors: Binder, Colman, Connor, Fiebert, Hupka, Jorgenson, Lowenthal, Nummedal, Padilla, Singer, Smith.

Assistant Professors: Dowell, Rebok.

Credential Adviser: Dr. Paul Petersen.

Academic Advising Coordinator: Dr. Len Hommel.

The psychology curriculum is designed to provide undergraduate students with a broad background in the principles of psychology. Three plans are provided for the major in psychology: the *General Plan* for those who wish to emphasize psychology in their liberal arts education, the *Applied Plan* for those who wish to acquire knowledge and skills in the application of psychology, and the *Research Plan* for those preparing for graduate study in psychology. The student may change from one plan to another at any time.

The General Plan is designed to provide the student with an understanding of human behavior as an emphasis in liberal arts education. It is not designed for the student who is planning advanced study in psychology.

The Applied Plan is designed to provide the student with some knowledge, methods and skills in the application of psychology in areas such as community, clinical, industrial and organizational psychology. Completion of this plan may facilitate professional training in applied psychology or related fields.

The Research Plan is designed to provide the student with the concepts and skills which will serve as necessary preparation for graduate study in all areas of psychology. It consists of intensive study in theory, content and research methods.

Major in Psychology for the Bachelor of Arts Degree (code 2-8130)

Lower Division: Psychology 100; 200 and 210, or 221A,B; 241 or three units of biology (see an approved list of courses available in the department office); and Mathematics 100 (see prerequisites to Psychology 210 or 221A,B).

Upper Division: A minimum of 24 units in psychology including: two courses from Psychology 331, 332, 333, 336, 337, 341; one course from Psychology 351, 356 or 361; and additional courses for one of the following three plans:
General Plan: 15 units of electives;
Applied Plan: Psychology 310 and 314, one course from Psychology 370, 375, 381, and two courses from Psychology 415, 416, 418, 471, 472-473, 474, 475, 481;
Research Plan: Psychology 310, Psychology 401 or 402, and two courses from Psychology 433, 437, 441 or 445, 451 or 456, 461.

Master of Arts Degree in Psychology
Master of Science Degree in Psychology

Programs of study leading to the master of arts degree in psychology and the master of science degree in psychology with options in community-clinical and industrial are offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

100. General Psychology (3) F, S Faculty
Introduction to the scientific study of human behavior. Designed to provide the student with a basic background for further study and for practical application in everyday life.

150. Personality and Social Behavior (3) F, S Faculty
Psychological principles pertinent to the understanding of personality and interpersonal adjustment. Discussion of research and theories of social motivation, conflict and anxiety, adjustment mechanisms and personality change.

200. Research Methods (4) F, S Faculty
Prerequisite: Psychology 100. Introduction to basic research methods in psychology. Principles of experimentation, naturalistic observation, correlational studies. (Lecture 3 hours, laboratory and field 3 hours.)

210. Introductory Statistics (4) F, S Faculty
Prerequisites: Psychology 100 and, within two preceding years, either (a) score of 20 or better on the Mathematics Placement Test or (b) grade of C or better in Mathematics 100 or equivalent. Calculation and meaning of statistical measures. Descriptive and inferential statistics: probability, normal curve, correlation, sampling, hypothesis testing. (Lecture 3 hours, laboratory 2 hours.)

221A. Introduction to the Study of Behavior I (4) F, S Faculty
Prerequisites: Psychology 100 and, within two preceding years, either (a) score of 20 or better on the Mathematics Placement Test or (b) grade of C or better in Mathematics 100 or an equivalent course. Study of basic behavioral processes using the major techniques of observation and investigation: laboratory, naturalistic and statistical. Independent investigative projects developed, performed and reported, with group participation in planning and discussion of projects. Not open to students with credit in Psychology 210 or 220. (Lecture 2 hours, laboratory and field 4 hours.)

221B. Introduction to the Study of Behavior II (4) F, S Faculty
Prerequisite: Psychology 221A. Continuation of Psychology 221A. (Lecture 2 hours, laboratory and field 4 hours.)

241. Psychobiology (3) F, S Faculty
Prerequisite: Psychology 100. Introduction to the study of behavior from a biological point of view. Biological systems and processes underlying behavior, with emphasis on brain mechanisms, presented in the context of fundamental concepts and issues in psychology.

Upper Division

310. Intermediate Statistics (4) F, S Faculty
Prerequisite: Psychology 210 or 221A or introductory statistics course. Basic theoretical concepts of statistics and the use of these concepts in the selection and development of model testing, hypothesis testing and parameter estimation procedures. Both single measure (univariate) and correlational (bivariate) concepts are included. (Lecture 3 hours, laboratory 2 hours.)

314. Psychological Assessment (3) F, S Dowell, Flebert, McClelland
Prerequisites: Psychology 200 and 210, or 221A,B. Principles of assessment applied to the measurement of individual behavior and to programs intended to affect behavior. Includes interviews, tests and other methods. (Lecture 3 hours.)

315. Principles of Psychological Testing (3) F, S Jarrett, Rhodes, Towner
Prerequisite: Psychology 210 or 221A or one statistics course. Principles and practices of group and individual testing in the fields of intelligence, aptitude, achievement, personality and interest. Emphasis on the evaluation of tests as measuring devices, their applicability and limitations.

331. Sensation and Perception (3) F, S Colman, DeHardt, Haralson
Prerequisite: Psychology 200 or 221A. Basic phenomena of the senses, their physiological correlates and integration in complex perceptual judgments. (Lecture 3 hours.)

332. Cognition (3) F, S Hanson, Jung, Resch, Smith
Prerequisite: Psychology 200 or 221A. Study of higher-order processes basic to the acquisition of knowledge. Includes thinking, problem solving, creativity, information processing, decision making, judgment, concepts and imagination. Not open to students with credit in Psychology 434. (Lecture-discussion 3 hours.)

333. Psychology of Learning (3) F, S Bradley, Danson, Padilla, Singer
Prerequisite: Psychology 200 or 221A. Human and animal learning with special emphasis on experimental evidence and techniques. (Lecture 3 hours.)

336. Psychology of Emotion (3) F, S Hommel, Hupka, Jung, Thayer
Prerequisite: Psychology 200 or 221A. Discussion of research, theories and coping mechanisms of human emotions. (Lecture-discussion 3 hours.)

337. Psychology of Motivation (3) F, S Hommel, Hupka, Jung, Thayer
Prerequisite: Psychology 200 or 221A. Situational and physiological determiners of human and animal behavior, theories of motivation and emotion, discussion of techniques and problems in the study of motivation. (Lecture 3 hours.)

341. Neuropsychology (3) S Green, Haralson
Prerequisite: Psychology 200 or 221A. Neurological correlates of behavior with special emphasis upon central nervous system structure and function. Experimental evidence on which neuropsychological theories of behavior are based. (Lecture-discussion 3 hours.)

343. Comparative Psychology (3) F Haralson
Prerequisite: Psychology 200 or 221A. Phylogenetic differences in animal behavior leading to the development of psychological principles. (Lecture 3 hours.)

345. Psychophysiology (3) F Green, Haralson
Prerequisite: Psychology 200 or 221A. Physiological activity occurring in humans during particular behavioral states. Theoretical problems and methodological approaches. (Lecture-discussion 3 hours.)

350. Psychology and Contemporary Social Issues (3) F, S Carlson
Prerequisite: Psychology 100. Application of social psychological principles toward understanding major contemporary issues.

351. Social Psychology (3) F, S Carlson, Heintz, Jorgenson, Lindner, Thayer
Prerequisite: Psychology 100. Study of individuals and groups as they are affected by social interactions. Includes such topics as social perception and learning, attitudes and persuasion, social influence (conformity, obedience), interpersonal perception (liking and loving), anti- and prosocial behavior (aggression, violence, altruism), cooperation and competition, leadership, group dynamics, sexual behavior. Not open to students with credit in Sociology 335.

353. Humanistic Psychology (3) F, S Fiebert, Singer
Prerequisite: Psychology 100. Integration of emotion and reason in the functioning of the whole person. Use of psychology in expanding normal human potential, as in altered states of consciousness, ESP, exalted experiences, encounter groups. Application of these approaches in social institutions.

354. Psychology of Women (3) F, S DeHardt
Prerequisite: Psychology 100. Psychology of sexism; the biological and social determinants of the psychology of women. Open to all qualified men and women students.

355. Therapist and Experimenter Effects (3) F DeHardt
Prerequisites: Psychology 200 or 221A and 350 or 356 or 370. Examination of research and practice relative to cross-cultural and cross-sexual therapist-client problems. Particular emphasis on the advantages and disadvantages of white-nonwhite, male-female and straight-gay therapist-client combinations. Consideration of the validity of research and therapy generally on social minority persons.

356. Personality (3) F, S Jung, Kapche, Lindner, Raine, Thayer
Prerequisite: Psychology 100. Discussion of theories, research and assessment in personality.

359. Self-Observation and Self-Measurement (3) F, S Fiebert, Linden, Singer, Thayer
Prerequisite: Psychology 100. Examination of personal traits and behavior patterns as reflected by objective measures, group interactional procedures and video feedback. Development of self through exposure to new environments, experiences, self analysis and meditation. (Lecture 2 hours, laboratory 3 hours.)

361. Developmental Psychology (3) F, S Jung, Nummedal, Petersen
Prerequisite: Psychology 100. Psychological problems of human development considered with reference to data from studies of children and lower animals.

370. Abnormal Psychology (3) F, S Faculty
Prerequisite: Psychology 100. Abnormal behavior as it throws light on normal personality adjustment. Consideration of the role of biological, psychological and social factors in personality disorders, together with the consideration of basic principles of mental hygiene.

375. Community Psychology (3) F, S Dowell, Lowenthal
Prerequisite: Psychology 100. Basic concepts and skills of community psychology, including community assessment, community intervention, program evaluation and social policy analysis, relationships between social systems and individual behavior. Emphasis on the economically disadvantaged, minorities, women, youth and the aged.

381. Industrial and Organizational Psychology (3) F, S Bradley, Jarrett, McClelland
Prerequisite: Psychology 100. Problems and procedures in industrial psychology. Consideration of job analysis, personnel selection and appraisal, organizational and social context of human work, physical environment and consumer behavior.

390. Special Topics in Psychology (3) F, S Faculty
Prerequisite: Consent of instructor. Topics of current interest in psychology selected for intensive development. May be repeated with different topics to a maximum of nine units, but no more than six units may be used to satisfy requirements of the major. (Lecture-discussion 3 hours.)

401. History and Systems of Psychology (3) F, S Creamer, Fiebiger, Nygaard
Prerequisites: Six upper division units in psychology. Contributions to the development of psychology by prominent historical figures and systems from the early Greek philosophers through the early 20th century schools of structuralism, functionalism, behaviorism, gestaltism and psychoanalysis. (Lecture-discussion 3 hours.)

402. Contemporary Systematic Psychology (3) F, S Fiebiger, Nygaard
Prerequisites: Six upper division units in psychology. Examination of 20th century systematic formulations and general theoretical approaches. (Lecture-discussion 3 hours.)

403. Mathematical Models of Behavior (3) S Hanson
Prerequisite: Psychology 321 or 322 or 310. Use of mathematical models, especially stochastic models, for the descriptive and theoretical analysis of individual and group behavior. Topics in learning, perception, attitude change and other areas will be used in examples of fitting models to data. (Lecture 2 hours, laboratory 3 hours.)

405. Field Work in Psychology (1-3) F, S Binder, Hommel, Singer
Prerequisites: Psychology major, junior or senior standing, Psychology 221A,B, 12 upper division units in psychology, letter of recommendation, consent of instructor. Student works under the supervision of or in association with a professional having an advanced degree in a psychological discipline, and who is engaged in the practice of some aspect of psychology in the surrounding community. Placements include schools, hospitals, industries, journals, alternative life style organizations, free clinics and community mental health agencies. Students will confer regularly with the instructor during the semester and will write a report describing their work. Unit credit assigned in ratio of one unit for three hours field work per week (15 weeks). Offered CR/NC only.

408. Applying Psychology to Teaching Psychology (3) F, S Danson, Nygaard, Smith
Prerequisites: Nine units of upper division psychology, Psychology 221A, consent of instructor. Introduction to the application of principles of behavior to the learning of psychology. Discussion and application of new developments in college teaching. Practice in assisting students to learn the content of basic psychology courses. (Lecture 2 hours, laboratory 2 hours.)

409. Projects in Teaching Psychology (3) F, S Danson, Nygaard, Smith
Prerequisites: Psychology 408, consent of instructor. Further experience in assisting students in basic psychology courses. Discussion of research on learning and teaching psychology and the development of teaching materials. Completion of project involving research, development of materials or project with students.

411. Statistical Design and Analysis of Experiments (3) F, S DeHardt, Newman, Resch, Rhodes
Prerequisite: Psychology 310 or 321 or 412 or consent of instructor. Simple and complex designs. Statistical inference in economical experimentation and in scientific inference and prediction. (Lecture-discussion 3 hours.)

412. Multivariate Statistical Analysis (3) F, S Hanson, Newman, Towner
Prerequisite: Psychology 310 or 322 or 411 or consent of instructor. Accuracy and cost of inference from multiple predictors. Discovering structural relationships among multiple variables. Theoretical implications of inferred structures. Applications. (Lecture-discussion 3 hours.)

415. Vocational Testing (3) F McClelland
Prerequisite: Psychology 315 or Educational Psychology 320. Principles and practices in the use of tests for vocational counseling and vocational selection. Students administer tests to selected subjects. Emphasis on evaluation of these tests for their applicability and limitations.

416. Program Evaluation (3) S Dowell, Newman
Prerequisites: Psychology 310, 314. Introduction to the methods of designing, implementing, analyzing and reporting evaluations of programs in mental health, industry, criminal justice, education and community settings. (Lecture 2 hours, laboratory 3 hours.)

418. Computer Applications in Psychology (3) F, S Creamer, Jarrett
Prerequisite: Psychology 321 or 322 or equivalent. Foundations of computer technology and its application to psychology. Emphasis on real-time control by digital computers in psychological research and applications. (Lecture 2 hours, laboratory 2 hours.)

433. Research in Cognition and Learning (3) F Hanson, Resch, Smith
Prerequisites: Psychology 310, and 331 or 332 or 333. Research methods in cognition, learning and perception. Laboratory includes observations and experiments on selected topics. (Lecture 2 hours, laboratory 3 hours.)

437. Research in Emotion and Motivation (3) S Hupka, Jung
Prerequisites: Psychology 310, and 336 or 337. Research methods in emotion and motivation. (Lecture 2 hours, laboratory 3 hours.)

438. Psycholinguistics (3) F Smith
Prerequisites: Six units of linguistics or upper division psychology. Psychological and linguistic approaches to study of language. Comparison of human language with communication in lower animals. Language development, disorders, symbolism and universals.

441. Research in Neuropsychology (3) F Green, Haralson
Prerequisites: Psychology 310, 341. Research methods in neuropsychology. Includes fundamentals of neuroanatomy, surgical procedures for stimulation, lesioning and recording, pharmacological procedures used in neuropsychological research. (Lecture 2 hours, laboratory 3 hours.)

445. Research in Psychophysiology (3) S Green, Haralson
Prerequisites: Psychology 310, 345. Research methods in human psychophysiology. Includes polygraph recording and analysis in human response systems such as brain, skin, cardiovascular and respiratory systems. (Lecture 2 hours, laboratory 3 hours.)

451. Research in Social Psychology (3) F Carlson, Jorgenson, Lindner, Thayer
Prerequisites: Psychology 310, 351. Research methods and problems in social psychology. (Lecture 2 hours, laboratory 3 hours.)

453. Principles of Group Dynamics (3) S Heintz, Lindner
Prerequisite: Psychology 351 or Sociology 335. Behavior in groups with attention to such factors as leadership, followership, interaction and influence including organization, management, morale, and efficiency. Problems, techniques and methods of investigation.

455. Psychology of Persuasion (3) F, S Carlson
Prerequisite: Psychology 351 or consent of instructor. Psychological bases of attitude change and social influence. Consideration of the source and communication factors influencing thinking, attitudes and personality, persuasibility and resistance to persuasion.

456. Research in Personality (3) S Jung, Kapche, Lindner, Raine, Thayer
Prerequisites: Psychology 310, 356. Research methods and problems in personality. (Lecture 2 hours, laboratory 3 hours.)

457. Psychology of Sex (3) S Singer
Prerequisites: Psychology 351 or 356 or 370, consent of instructor. Survey of topics in human sexuality with emphasis on developmental psychology of sexuality, attitudes and feelings related to sexuality, sexual variations and deviations, and sexual dysfunction and sex therapy.

459. Social Psychology of Homosexuality (3) F, S Dank
Prerequisites: Psychology 100, Sociology 100. Social psychological and sociological analysis of various aspects of homosexual behavior. Exploration of the causes of homosexuality, social processes involved in developing a homosexual identity and the social consequences of living a homosexual life. Critical analysis of competing theories and review of relevant empirical research. Not open to students with credit in Sociology 427E. (Same course as Sociology 459.)

461. Research in Developmental Psychology (3) S Nummedal, Rebok
Prerequisites: Psychology 200, 310, 361. Research methods in life-span developmental psychology. Includes cross-sectional and sequential design and statistical models. (Lecture 2 hours, laboratory 3 hours.)

471. Research in Clinical-Community Psychology (3) F, S Binder, Dowell, Kapche, Raine
Prerequisites: Psychology 310, 314, 375 or 473. Research methods in clinical-community psychology. Designing and conducting research. Includes assessment of individual programs, social, clinical and community systems. (Lecture 2 hours, laboratory and field 3 hours.)

472. Laboratory in Clinical Methods (1) F Kapche, Linden, Petersen
Prerequisite: Consent of instructor. To be taken concurrently with Psychology 473. Training in techniques studied in Psychology 473 including role playing, play therapy, behavior modification and family therapy. (Laboratory 3 hours.)

473. Introduction to Clinical Psychology (3) F, S Faculty
Prerequisites: Psychology 370, consent of instructor. Survey of the field of clinical psychology including an introduction to diagnostic procedures and therapeutic process. Practical projects in observation, case practice and case conference techniques.

474. Introduction to Clinical and Community Techniques (4) S Faculty
Prerequisites: Psychology 472, 473, consent of instructor. Training in techniques studied in Psychology 472 and 473 including role playing, play therapy, behavior modification and family therapy. Open only to students who have been admitted to the two-year clinic undergraduate training program. (Lecture 3 hours, laboratory 3 hours.)

475. Interviewing and Case Study Methods (3) F, S Fiebert, Linden
Prerequisite: Psychology 314. Study and development of the clinical techniques of observation, case history and the interview.

476A,B. Applications in Community-Clinical Psychology (3,3) F, S Faculty
Prerequisites: Psychology 475, application for 476A by preceding April 15. Supervised experience in the Community Psychology Clinic and other settings. Theory, application and research in crisis intervention, behavior modification, education and consultation skills and counseling of youngsters from various ethnic backgrounds.

481. Research in Industrial Psychology (3) F, S Creamer
Prerequisites: Psychology 200, 310, 381. Research methods and problems in industrial psychology. Includes direct observation, psychophysical, regression and experimental methodologies. (Lecture 2 hours, laboratory 3 hours.)

486. Personnel Psychology (3) F Jarrett
Prerequisite: Psychology 381 or 481. Survey of existing knowledge and description of research techniques in personnel psychology.

490. Advanced Topics in Psychology (3) F, S Faculty
Prerequisite: Consent of instructor. Topics of current interest in psychology selected for intensive development. May be repeated with different topics to a maximum of 15 units, but no more than six units may be used to satisfy the requirements for the major. (Lecture 3 hours.)

499. Independent Study (1-3) F, S Faculty
Prerequisite: Consent of department. Student will conduct independent laboratory or library research and write a report of the research. May be repeated for a maximum of 6 units.

Graduate Division

515. Test Construction Theory and Practice (3)

520. Instrumentation in Psychology (3)

527. Human Factors (3)

541. Techniques of Physiological Psychology (3)

554. Attitude and Opinion (3)

573. Clinical Psychology (3)

574. Individual Intelligence Testing (4)

577. Research in Clinical and Community Psychology (3)

581. Organizational and Personnel Psychology (3)

586. Proseminar in Industrial Psychology (3)

590. Advanced Topics in Psychology (3)

631. Seminar in Perception and Physiological Psychology (3)

632. Seminar in Learning (3)

634. Seminar in Human Learning and Cognitive Processes (3)

637. Seminar in Emotion and Motivation (3)

651. Seminar in Social Psychology (3)

656. Seminar in Personality (3)

664. Seminar in Cognitive Development (3)

671. Seminar in Behavior Disorders of Children (3)

672A-B. Seminar in Community Psychology (4,4)

673A,B. Practicum in Community Psychology (1-8)

678. Clinical Practicum (3)

681. Seminar in Applications of Psychology to Industry (3)

688. Practicum in Industrial Psychology (3)

690. Seminar in Psychology (3)

696C. Research Methods in Psychology (3)

696I. Research Methods in Psychology (3)

697. Directed Research (1-3)

698. Thesis (1-4)

Russian-East European Studies

Director: Dr. George Kacewicz.

Russian-East European Studies has an interdisciplinary program which offers students interested in this field the opportunity to pursue courses leading to a Certificate in Russian-East European Studies. Courses used to meet this certificate requirement may be counted also, where applicable, toward the General Education requirement and the major and teaching minor requirements of the cooperating departments.

Interdisciplinary in concept, it covers the fields of anthropology, economics, geography, history, comparative literature, management, philosophy, political science and the Russian language.

The expanding opportunities for careers and public service in foreign policy administration, international organization, international business activities, education and information for intercultural understanding, make it useful to organize studies leading to a certificate in this ever important part of the world will tend to enhance the student's possibility for a career in business, education or government, and broaden the scope of understanding.

Interested students should apply to the Director, Russian-East European Studies, Dr. George Kacewicz, Political Science.

Requirements for the Certificate in Russian-East European Studies

1. A bachelor's degree with an approved major.
2. A minimum of two semesters of a Slavic language.
3. 18 units selected from four of the disciplines listed below chosen in consultation with the student's adviser. No more than six units of any one discipline shall apply towards the certificate.
4. Cumulative grade point average of 2.75 in all courses in the student's approved certification program.

Russian-East European courses: Anthropology 331, 490*; Comparative Literature 349*, 428*, 447*, 449*; Economics 364, 368, 490*; Geography 317, 318; History 341A, 341B, 441, 490*, 495*; Management 450, 451; Philosophy 425*, 490*; Political Science 356, 357, 484, 497*; Russian 101A-B, 201A, 201B, 312, 313, 314, 315, 316, 401.

*May be taken only when course work is applicable to Russian-East European Studies. Consultation with director of the center is required.

Social Welfare

Department Chair: Mr. Warren Ponsar.

Professors: Hutton, Ponsar.

Associate Professors: Granger, Lee.

Assistant Professors: Glezakos, Pierce, Portner.

Academic Advising Coordinator: Mr. Warren Ponsar.

The Department of Social Welfare offers courses leading to the bachelor of arts degree with a major in social welfare to students seeking a professional career in social work. The program is accredited and is generic in nature and approach so that the student is prepared to enter any area of the social service or allied fields as a professional social worker. This includes such fields as public and private social services, child and family services, mental health, medical and correctional services. The student will also be eligible to enter graduate schools of social work for additional preparation in the above fields, as well as in administration, advanced clinical areas, consultation, research, supervision and teaching.

The program is designed for the student who, through evaluations and performance in the first course(s) taken in the department, demonstrates ability and promise for development as a professional social worker.

Because of the nature of the curriculum it is strongly recommended that most or all general education units and lower division requirements, outside of the department, be completed prior to entering departmental courses. This will give the student greater assurance of readiness for the content of social work courses. Insofar as possible, the three upper division requirements, outside the department, should be taken early in the student's upper division experience.

Students contemplating declaring, or already accepted in the major, should come to the department for counseling and advising concerning the sequence in which courses should be taken and arrangement of their schedules.

Social welfare majors should consider taking courses particularly in the ethnic studies programs and in the Center for Urban Studies, Center for Women's Studies, Home Economics and Political Science departments as electives or for fulfillment of general education requirements. The department can make recommendations concerning those courses which would be most useful to students interested in acquiring broader information which is closely allied to professional social work practice.

All courses in the department are designed for social welfare majors. However, many of these courses are suitable for fulfilling general education or elective requirements for students outside the major.

Students interested in graduate work should note that 79 accredited graduate schools in the United States offer the two-year program for the master's degree in social work. Many of these professional schools now grant advanced standing of up to one year to students who have completed a Council on Social Work Education accredited undergraduate social work program.

Students should note that many courses are closed to those who have taken certain departmental listings in previous Undergraduate Bulletins. *If, however, students believe there are substantial reasons to take one of these courses, they should contact the department concerning this petition.*

Major in Social Welfare for the Bachelor of Arts Degree (code 2-8555)

Lower Division: Anthropology 120, Biology 107, Psychology 100, Sociology 100, an elementary statistics course, Social Welfare 220, 221.

Upper Division: Economics 300 (or 200 and 201), Psychology 370, Sociology 320, Social Welfare 330, 331, 340, 341, 342, 350, 351, 440, 441, 465, 495A,B.

Lower Division

220. Introduction to Social Welfare (3) F, S Glezakos, Lee

Historical and philosophical perspectives of the evolution of social welfare services and social work practice and their interrelationship to culture, economic, political, psychological and social conditions. Discussion of overall concerns of social welfare and public and voluntary efforts to fulfill these. Overview of the social worker's role in relation to human needs and methods of delivery of social work services. Social welfare majors must take this course concurrently with Social Welfare 221. Not open to students with credit in Social Welfare 260.

221. Introduction to Social Welfare Practicum (1) F, S Glezakos, Ponsar

Open to social welfare majors only. Minimum of three hours of experience in a social service or allied setting, approved by the department, to acquaint students with the various requirements of social work practice in the field. Observational and/or volunteer activities which will help the student determine the desirability of social work as a career.

Upper Division

330. Human Behavior and Social Environment: Birth through Adolescence (3) F, S Portner

Prerequisite: Social welfare majors: Psychology 100, Sociology 100; non social welfare majors: consent of instructor. Examination of a wide range of human behavior and its relationship to the social environment within a developmental framework. Integration of general system and role theories, and concepts of stigma. Implications for social work practice. Open to non-social welfare majors.

331. Human Behavior and Social Environment: Young Adulthood through Old Age (3) F, S Portner

Prerequisite: Social welfare majors: Social Welfare 330; non-social welfare majors: consent of instructor. Examination of a wide range of human behavior and its relationship to the social environment within a developmental framework. Integration of general system theory, role theory, personality theory and concepts of stigma. Implications for social work practice. Open to non-social welfare majors.

340. Social Work Practice I (3) F, S Granger
Prerequisites: Social Welfare 220, 221, 330. Concurrent enrollment in Social Welfare 341. Open to social welfare majors only. Social work as a helping process. Basic principles of and generic frameworks for social work practice. Interviewing techniques, the role of the social worker in helping ameliorate and resolve social, emotional and environmental problems and the relationship of these to all social work intervention.

341. Social Work Practicum (1) F, S Ponsar
Prerequisite: Concurrent enrollment in Social Welfare 340 or 342. Open to social welfare majors only. Minimum of three hours' experience in a social service or allied setting, approved by the department, to acquaint students with the requirements of social work practice in the field. Student participation in various social work activities. May be taken once for credit with Social Welfare 340 and once for credit with Social Welfare 342.

342. Social Work Practice II (3) F, S Granger
Prerequisites: Social Welfare 331, 340, 341. Concurrent enrollment in Social Welfare 341 or 495A. Open to social welfare majors only. Social work practice with individuals and families. Theories, techniques, activities, roles of the social worker, differential approaches to evaluation, treatment and helping processes.

350. Social Policy I (3) F, S Hutton
Social policy as defined in legislation and as affected by judicial decisions. Legal background and development of social legislation affecting rights of individuals, minorities, families and the general welfare. Implications for social work practice will be considered. Not open to students with credit in Social Welfare 367.

351. Social Policy II (3) F, S Hutton, Pierce
Prerequisites: Social Welfare 220, 221, 350. Policies, programs and issues related to social welfare institutions and services, including the interrelation of these with other parts of the social structure. Motivations and methods by which major social welfare policies and programs were developed in our society. Current values and issues in social welfare policy. Not open to students with credit in Social Welfare 467.

370. Social Services for Families and Children (3) F, S Granger
Contemporary social welfare programs designed to meet the physical, psychological and social needs of families and children. Settings in which services are provided. Basic principles and methods of providing services, including the role of the social worker. Not open to students with credit in Social Welfare 461.

371. Probation, Parole and Other Social Services in Corrections (3) F, S Faculty
Contemporary governmental and private correctional services designed to meet the needs of the offender and the community. Includes probation, parole, institutional and community based programs. Historical background, principles of investigation, supervision, treatment and the role of the social worker. Not open to students with credit in Social Welfare 368.

372. Social Services in Health Settings—Medical (3) F, S Lee, Ponsar
Survey of the development of scientific medicine, the modern hospital, statutory health regulations and medical social work. Consideration of acute and chronic disabilities which are socially handicapping and the role of the social worker in the delivery of service to the patient, family and community. Not open to students with credit in Social Welfare 470.

373. Social Services in Health Settings—Psychiatric (3) F, S Faculty
Survey of psychiatric concepts, mental health laws, regulations governing the practice of psychiatric social work and descriptions of settings providing mental health services. Consideration of acute and chronic mental and emotional dysfunctions which are handicapping and the role of the social worker in the delivery of services to the patient, family and community. Not open to students with credit in Social Welfare 471.

440. Social Work Practice III (3) F, S Glezakos, Lee
Prerequisites: Social Welfare 331, 340, 341. Concurrent enrollment in Social Welfare 495A or B. Open to social welfare majors only. Analysis of group dynamics, theories and principles underlying practice with groups. Programs, practice techniques and roles involved in working with various types of groups. Not open to students with credit in Social Welfare 364.

441. Social Work Practice IV (3) F, S Faculty
Prerequisites: Social Welfare 331, 340, 341. Concurrent enrollment in Social Welfare 495B (may be taken concurrently with 495A with departmental consent). Open to social welfare majors only. Analysis of theories and principles underlying practice with communities. Adaptation of theories and activities to the variety of organizational contexts encountered. Techniques and activities involved in working with local communities and neighborhoods. Not open to students with credit in Social Welfare 366.

465. Research Methods in Social Work (3) F, S Lee
Prerequisites: Social Welfare 340, 341, 342, one course in elementary statistics. (Social Welfare 342 may be taken concurrently with 465 under special circumstances.) Open to social welfare majors only. Must be completed prior to or concurrently with 495B. Introduction to research methods in the social work profession with emphasis on evaluation of the effectiveness and outcomes of social work and community service programs. Not open to students with credit in Social Welfare 455 or 455E.

495A. Field Experience in Social Work (7) F, S Faculty
Prerequisites: Social Welfare 331, 340, 341, 350. Concurrent enrollment in Social Welfare 342 and/or 440. Open to social welfare seniors who have been accepted by the department for field work. Supervised practice experience in social welfare agencies and allied settings. Requires weekly two hours of campus seminar and 16 hours minimum in agency placement. Not open to students with credit in Social Welfare 460A,B.

495B. Field Experience in Social Work (7) F, S Faculty
Prerequisites: Social Welfare 351, 495A. Concurrent enrollment in Social Welfare 440 and/or 441. Must be taken immediately after 495A. Open to social welfare seniors who have been accepted by the department for field work. Supervised practice experience in social welfare agencies and allied settings. Requires weekly two hours of campus seminar and 16 hours minimum in agency placement. Not open to students with credit in Social Welfare 460A, B.

499. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Independent study of special topics under supervision of a faculty member.

Sociology

Department Chair: Dr. Glenn Walker.

Professors: Fradkin, Hartman, Haskell, Hubbard, Korber, Massaro, Penalosa, Sheets, Ullman, Walker.

Associate Professors: Aarons, Cereseto, Dank, Halliwell, Harman, Leis, Lunceford, Parker, Richmond, Slawski, Smith, Turk.

Academic Advising Coordinator: Mr. Herbert Aarons.

The courses in sociology are designed for those who wish a knowledge of the scope and methods of sociology, either for general cultural background or as an integral part of preprofessional training.

Major in Sociology for the Bachelor of Arts Degree (code 2-8560)

Lower Division: All majors are required to have credit for Sociology 100, 142 and 255. Anthropology 120 is recommended.

Upper Division: Satisfactory completion of at least 51 semester units of college work is required before students will be accepted in upper division sociology courses. All majors are required to have a minimum of 24 units including credit for Sociology 327, 335, 356, 455, 456, and also complete nine units of electives from upper division courses (with exception of Sociology 473 which will not meet major requirements).

Minor in Sociology (code 0-8560)

A minimum of 20 units which must include:

Lower Division: Sociology 100, 142.

Upper Division: Sociology 335 and a minimum of 11 units selected from courses other than Sociology 355 and 473.

Master of Arts Degree in Sociology

A program of study leading to the master of arts degree in sociology is offered. For detailed information concerning requirements see the *Graduate Bulletin*.

Lower Division

100. Principles of Sociology (3) F, S Faculty
Introduction to basic concepts of sociology and sociological analysis, emphasis upon group, status, role, personality, socialization, social processes, institutions, social organization and socio-cultural change.

142. Social Trends and Problems (3) F, S Faculty
Concepts of social change, lag, trends and disorganization; population growth and mobility; minority groups; rural-urban relationships; communication agencies and problems; public health; social stratification; and war. Especially recommended for teachers who want a general survey of social problems.

255. Elementary Statistics (3) F, S Anderson, Fradkin, Halliwell, Harman, Hubbard, Walker
Prerequisite: Knowledge of mathematical procedures usually covered in elementary high school algebra. Statistical techniques in social research. Relations of appropriate techniques to research problems. Assumptions necessary to the use of statistical techniques. Not open to students with credit in Mathematics 180.

275. Marriage (3) F, S Hartman
Survey of the most recent information on dating, courtship, engagement, mate selection, areas of adjustment in marriage, parenthood, financial and homemaking problems.

Upper Division

320. The Family (3) F, S Fuss, Hartman, Penalosa, Slawski, Ullman
Prerequisite: Sociology 100. Family as a social institution in various cultures with stress on the American family systems. Analysis of forces producing change, organization and disorganization of family systems.

325. Sociology of Women (3) F, S Turk
Prerequisite: Sociology 100. Socio-cultural position of women; a brief history of women's role and status; societal attitudes toward women's place in society. Open to all qualified men and women.

327. Social Organization (3) F, S Cereseto, Richmond, Slawski
Prerequisite: Sociology 100. Introduction to classical and recent analysis of social organization; organizational structure of society at all levels of scale from the village to metropolis; roles of formal and informal organizations and relations between them and social processes within organizations.

335. Social Psychology (3) F, S Aarons, Dank, Korber, Slawski
Prerequisite: Sociology 100. Extent to which personality is determined by social influences and processes by which people fit themselves into human groups. Not available to students with credit in Psychology 351.

336. Sociology of Small Groups (3) F, S Hartman, Lunceford, Turk, Ullman
Prerequisite: Sociology 100. Designed to give theoretical and practical understanding of sociological concepts and principles found in the dynamics of small groups; research and theory, the individual in a social situation, the group as a system of social interaction, leadership, methodology, and the small group approach to a problem.

345. Juvenile Delinquency (3) F, S Aarons, Fradkin, Haskell
Prerequisite: Sociology 100. Extent and distribution; causative factors; influence of home, school and community, programs of prevention, control and treatment.

347. Social Disorganization (3) F Cereseto, Dank
Prerequisite: Sociology 100. Analysis of those forces, processes and relationships which tend to create disorganization in society and of their operation in selected life situations. Examination of relationships between personal and social disorganization. Description and analysis of the forces and process whereby reorganization is effected.

350. Population Problems (3) F Harman
Prerequisites: Sociology 100 and one other course in sociology. Trends in population composition, growth and movement. Social variables affecting birth, death and migration. Attention given to historical and current problems of the U.S. and selected world areas.

355. Advanced Statistics (3) On demand Harman, Hubbard, Walker
Prerequisite: Sociology 255 or equivalent. Advanced statistical concepts in social research. Measurement theory; correlation methods; prediction models; reliability and validity; non-parametric tests; analysis of variance.

356. Development of Sociological Theory (3) F, S Leis, Ullman
Prerequisite: Sociology 100. Social thought and historical forces leading to the emergence of sociology; and an exploration of classical sociological theories up to the early twentieth century including such thinkers as Comte, Spencer, Marx, Durkheim and Weber.

401. The Psychodramatic Method (3) F, S Haskell
Prerequisite: Psychology 100 or Sociology 100. Theoretical basis for the use of action methods in increasing the understanding of interpersonal and intergroup relationships. The psychodramatic method and techniques and their applications in interpersonal and intergroup relationships will be examined.

410. Human Ecology (3) S Harman
Prerequisite: Sociology 100. Ecological approach to social phenomena. Analysis of interdependencies of ecosystems involving social structure, environment, technology, population and level of organization. Examination of eco-relationships in simple and complex societies.

419. Rural-Urban Trends (3) On demand Leis
Prerequisite: Sociology 100. Transition from rural to urban society in America; impact of the urban way on individuals and groups; persistence of rural values; social differences between communities in various stages of the process of urbanization.

420. Social Stratification (3) F, S Richmond
Prerequisite: Sociology 100. Role, status, and structure of differential rankings in societies, criteria for ranking, functions and dysfunctions, correlates of class position, and social change.

422. Social Institutions (3) F, S Parker, Turk
Prerequisites: Sociology 100 and one other course in sociology. Process of institutionalization, the general nature of institutions.

425. Industrial Sociology (3) On demand Hubbard
Prerequisite: Three units of sociology. Modern industrial society; industrial organization; group structure and behavior in factory, office, and store; worker and the machine; social classes and the industrial order; industrial conflict.

426. Sociology of Sexual Behavior (3) F, S Dank, Fradkin, Hartman, Turk
Prerequisite: Sociology 100. The social context of human sexuality; effects of socialization, social class, occupation and religion on sexual attitudes and behavior.

430. Social Control (3) F, S Massaro, Parker
Prerequisite: Sociology 100. Nature and means of social control. Classification and analysis of different forms of social control. Relative significance of types of social control such as law, religion and the family. Deliberation of noninstitutional controls such as language, ideologies and status groups.

435. Symbolic Behavior (3) F, S Massaro, Smith
Prerequisite: Sociology 100. Social communication in human behavior. Nature and function of language and related communication symbols in group life. Communication media, such as newspapers, books, radio, television, movies and their function in socialization.

441. Criminology (3) F, S Dank, Fradkin, Haskell
Prerequisite: Sociology 100. Incidence and characteristics of criminal behavior; physical, economic and emotional causes of antisocial behavior; social effects of crime; probation and parole; prevention programs.

442. Penology (3) F Aarons, Fradkin
Prerequisite: Sociology 441. Control and treatment of offenders, peno-correctional programs, particularly in the United States. Administrative problems and methods in penology. American penology viewed in the framework of criminology.

445. Ethnic Group Relations (3) F, S Lunceford, Penalosa
Prerequisites: Sociology 100 and one other course in sociology. Patterns of ethnic group differentiation; world relationships between ethnic groups; accommodation and assimilation of minority groups in America.

449. Political Sociology (3) On demand Cereseto, Halliwell, Parker, Richmond
Prerequisite: Sociology 100. Analysis of the relation between social structure and political processes.

455. Methods of Sociological Research (3) F, S Hubbard, Richmond, Smith, Turk, Ullman, Walker
Prerequisites: Sociology 100, 255 and one upper division course in sociology. Introduction to the use of scientific methods in sociology, its purpose and limitations, relationship between theory and research, research design, sampling, measurement and social science techniques, reliability and validity.

456. Contemporary Sociological Theory (3) F, S Fuss, Leis, Penalosa, Ullman
Prerequisites: Sociology 100, 356 and one other upper division course in sociology. Critical analysis of the contributions of contemporary sociologists. Intended primarily for majors in this field.

459. Social Psychology of Homosexuality (3) F, S Dank
Prerequisite: Psychology 100 or Sociology 100. Social psychological and sociological analysis of various aspects of homosexual behavior. Exploration of the causes of homosexuality, social processes involved in developing a homosexual identity and the social consequences of living a homosexual life. Critical analysis of competing theories and review of relevant empirical research. Not open to students with credit in Sociology 427E. (Same course as Psychology 459.)

485. Sociology of Language (3) S Penalosa
Structure and use of language varieties in relation to social interaction, social inequality, social change and nationalism.

490. Special Topics in Sociology (1-3) F, S Faculty
Topics of special interest in sociology selected for intensive study. Topics will be announced in the *Schedule of Classes*. May be repeated with different topics to a maximum of 6 units.

495. Internship (1-4) F, S Smith
Prerequisites: Sociology 100, 142, 335, junior or senior standing, consent of instructor. Supervised field experience in public and private agencies, relating sociological principles to community situations. Designed to provide career-related work experience in both research and applied fields. Students may enroll for 1-4 units, depending on field assignment and time required. May be repeated for a maximum of six units. (Six-10 hours per week field experience.)

499. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Independent study of special topics under supervision of a faculty member. May be repeated to a maximum of 4 units. In exceptional cases, may be repeated to a maximum of six units when approved by the department.

Graduate Division

620. Seminar in Family (3)

622. Seminar in Social Institutions (3)

625. Seminar in Social Classes (3)

629. Seminar in Social Change (3)

635. Seminar in Social Interaction (3)

647. Seminar in Deviant Behavior (3)

656. Seminar in Sociological Theory (3)

696. Research Methods (3)

697. Directed Research (1-3)

698. Thesis (2-6)

Urban Studies

Faculty and Board of Directors

Director: M. Stark.

Professors: R. Alexander (Civil Engineering), R. Cook (Recreation), J. Hoff (Home Economics), J. Krause (Art), C. Neidengard (Civil Engineering), R. Rooney (Economics), R. Russell (Center for Environmental Studies).

Associate Professors: A. Cerillo (History), R. Outwater (Geography), P. Schmidt (Political Science), J. Splansky (Geography), M. Stark (Urban Studies).

Assistant Professor: C. Crayton (Recreation).

Urban Studies offers specialized training in a variety of significant urban problem areas. The certificate program is designed to provide training in the analysis of urban problems and serves as an excellent supplement to standard degree programs at both the undergraduate and graduate levels. It offers essential training for those seeking careers within the context of the urban environment.

Since urban problems cut across such a variety of disciplines, the program is characterized by an interdisciplinary approach. This is accomplished by allowing students to draw together related courses from a variety of other departments and to integrate these with the specialized urban studies core and elective course offerings. The result is a program which is tailored to fit the interests and talents of each particular student and which provides essential skills and tools necessary in the analysis and treatment of urban problems.

A second hallmark of the Urban Studies Certificate Program is the strong emphasis given to practical field components designed to enrich the experience and training of students pursuing course work in Urban Studies. Students who earn a Certificate in Urban Studies as a part of their undergraduate or graduate degree programs not only acquire an interdisciplinary focus on urban phenomena and specialized training in urban problems analysis, but complete a practical field study program designed to bridge the gap between the classroom and the "real world" complexity of urban systems. This is accomplished through a model university/community educational program consisting of The Long Beach Project and the Summer Internship Program.

Certificate in Urban Studies

The core of the Certificate in Urban Studies is six units of urban studies courses and 18 units of urban studies electives selected from a variety of departments. The urban studies core curriculum consists of two courses: Urban Studies 401 and 402. The introductory discussion colloquium (Urban Studies Colloquium 401) delineates the most crucial urban problem areas. The urban studies core course (Field Experience in Urban Studies 402) is a field course which sends small research teams of students into the community under the direction of an appropriate urban studies faculty member. These research teams seek out data in public agencies, private institutions and the community at large and recommend approaches to problem solution. A brochure detailing the Urban Studies Certificate Program is available from the Special Programs Office.

Interested students should apply to the Director of Urban Studies.

Requirements for the Certificate in Urban Studies

1. A bachelor's degree.
2. Consultation with the director of the program.
3. Twenty-four units distributed as follows:

Required Courses: Urban Studies 401, 402.

Elective Courses: 18 units from the following courses to be selected in consultation with an urban studies adviser. No more than six units shall be from one department except Urban Studies. These electives must be outside the student's major. American Indian Studies 312; Anthropology 416, 460, 516; Art 417, 418; Black Studies 210, 330, 420A,B; Civil Engineering 426, 464, 482; Criminal Justice 301, 481, 485; Economics 336, 436; Educational Psychology 485; Finance 222; Geography 388, 466, 467; Health Science 320, 322; History 474; Home Economics 342, 440, 442, 444; Mexican-American Studies 230, 300, 304, 350; Political Science 327, 426, 442; Psychology 351; Recreation 330; Social Welfare 350, 351; Sociology 347; Urban Studies 201, 490, 493, 494, 497A,B, 499.

University/Community Programs

The university/community program consists of two complementary parts. The first, known as The Long Beach Project (Urban Studies 497A,B), provides students the opportunity to study and participate in the formal decision-making structure of city government and at the staff level in city departments. The second part consists of an internship program (Urban Studies 494) in which students participate as researchers and staff workers on the staffs of public agencies. Both parts are tied to the University through courses designed expressly to give students course credit and provide faculty supervision for their community laboratory experience. Little time is spent in the classroom, and faculty spend a substantial portion of their effort in one-to-one discussions with students and are also the organizers and coordinators of the complex arrangements which have to be made with the public agencies. One part of this model focuses upon the activities of decision-making boards, commissions and committees; the other is concerned with the workings of public agencies at the staff level.

Lower Division

201. Introduction to Urban Studies (3) F, S Faculty
Prerequisite: Sophomore standing or higher. Introduction to urban studies including a critical and comparative examination of the most crucial variables which affect the urban community such as population distribution, transportation systems, economic and technological parameters, government and politics, conflict among differing urban value systems and generalized problems or questions which result from the interaction of these variables.

Upper Division

401. Urban Studies Colloquium (3) F, S Faculty
Analysis of the general urban problem areas: transportation, special populations, government, land use planning, city revitalization, housing and employment.

402. Field Experience in Urban Studies (3) F, S Faculty
Prerequisites: Urban Studies 401 and consent of instructor. Analysis of specific community problems with thorough field investigation in the community including public agencies and census data. Small groups of students will specify the scale of specific problems and their efforts will be directed by an urban studies faculty member.

490. Special Topics in Urban Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Topics of current interest in urban studies selected for intensive development. May be repeated for a maximum of six units of credit. Topics will be announced in the *Schedule of Classes*.

493. Urban Community Problems (3) SS Faculty
Community experts in such areas as city administration, urban planning, health, education, welfare and justice will analyze contemporary problems of the urban community.

494. Community Understudy Experience (3) SS Faculty
Prerequisite: Consent of instructor. Student participation as understudies in a variety of city agencies in order to gain an understanding of the difficulties associated with solving problems of the urban community. Discussion groups of students, faculty and community leaders will share experiences and report on their observations and conclusions.

497A,B. The Long Beach Project (3,3) F, S Faculty
Prerequisite: Consent of instructor. Analysis of public policy issues and the decision-making process with a focus on the City of Long Beach. Students will learn while participating, as appointed members, on the boards and commissions of the City of Long Beach and serving at the staff level in city departments.

499. Directed Studies (1-3) F, S Faculty
Prerequisite: Consent of instructor. Independent study under the supervision of a faculty member.

Women's Studies

The main objectives of Women's Studies are: (1) to encourage scholarly inquiry into the nature, roles, status and history of women, (2) to provide the facilities necessary for the discussion and exploration of problems which impede the development of women's full potential, (3) to encourage the fruitful interaction of women with one another, both within the University community and in the community at large, and (4) to offer an academic minor.

The program is interdisciplinary and open to all individuals. In addition to the women's studies courses, courses are currently offered in the following areas or departments: Anthropology, Asian-American Studies, Comparative Literature, Economics, English, History, Home Economics, Honors, Psychology, Radio-Television, Religious Studies, Social Welfare, Sociology, Speech Communication and Women's Physical Education.

Students may also graduate with a B.A. in American studies with an option in women in America (for further information on the option, contact the American studies adviser) or with a B.A. through the special major program.

For advisement and additional information about the women's studies program contact the Coordinator, Women's Studies.

Requirements for the Minor in Women's Studies (code 0-0013)

Twenty units, selected in consultation with and approved by the women's studies adviser. Required: Women's Studies 314, 410; Comparative Literature 404; English 498*; Religious Studies 490*; (2) Women's Studies 350, 356, 405A,B; History 485; Sociology 325; Psychology 354, 355; (3) Women's Studies 315; Asian American Studies 370; History 401; Mexican American Studies 490* Recommended: Women's Studies 415 and at least one unit of Women's Studies 498 or 499.

Lower Division

101. Women and Their Bodies (3) F, S Faculty
An introduction to the rapidly expanding body of literature and ideas related to the biology and sexuality of women.

102. Women in Contemporary Society (3) F, S Faculty
An introduction to some of the basic questions raised by the contemporary feminist movement relating to the social, political and economic status of women.

* If applicable and approved by the women's studies adviser.

Upper Division

314. Women's Lives (3) F, S Gluck, Faculty
Study of the lives of well-known and little-known women based on biographical and autobiographical sources.

315. Black Women in America (3) F, S Williams
Examination of the roles of American black women as expressed in their literature. The course will be taught from an interdisciplinary perspective and will commence with colonial literature.

350. Women and Mental Illness (3) S Shaw, Wicker
Introduction to the rapidly expanding body of literature related to the history, anthropology, psychology and sociology of mental illness with particular emphasis on the relationship between the occurrence of mental illness among women to sex role socialization and stereotypes.

356. The Lesbian (3) S Faculty
This course will examine the position of the lesbian in society, including attitudes portrayed in media, health, mental health, professions, sports, education, law and religion and the resulting societal stigmas. Focus on the role and function of a homosexual woman in a heterosexual world. The Gay Liberation movement and the relationship between Lesbianism and Feminism will be explored.

401. History of Women in Cross-Cultural Perspective (3) S Faculty
Comparison of how different social and cultural systems have affected the changing historical roles of women. Analysis of women's work roles, social status and political participation in selected developed and undeveloped Western and Asian, capitalist and socialist societies. Area emphasis to vary from semester to semester. Independent student research projects. Open to all qualified men and women.

405A,B. Women in the 20th Century: An Exploration Through Oral History (3,3) F, S Faculty
Recreation of women's history in the first decade of the 20th century through the collection of reminiscences, oral history, from a cross-section of living "unknown" women.

410. Women and Religion (3) F Faculty
A study of the Judeo-Christian understanding of the nature of woman and her role in church and society from biblical times to the present. Biblical, historical, theological and practical aspects of the subject will be investigated.

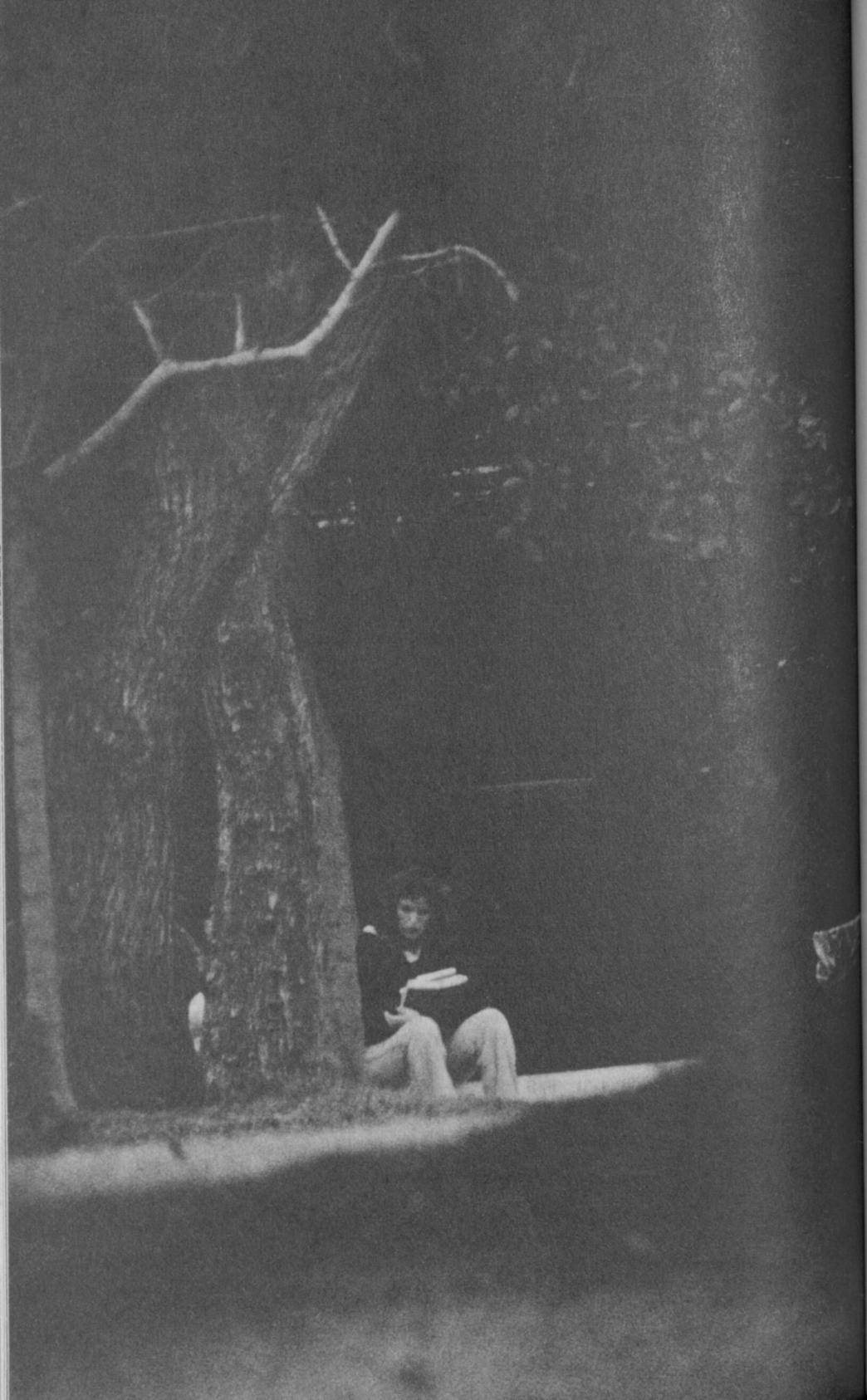
415. Feminist Theory (3) F, S Shaw, Wicker
Prerequisite: Women's Studies 101, 102 or consent of instructor. Examination of major feminist writings dealing with the emancipation of women; analysis and discussion of reformist, revolutionary and psycho-social theories for bringing about female-male equality.

485. History of American Women (3) F, S Faculty
Study of the changing role and status of women in American society from 1600 to the present. Emphasis will be placed on the similarities and differences in the position of women in various sub-cultures, on the roles of women at different economic levels and on past and present feminist movements.

490. Special Topics (1-3) F, S Faculty
Topics of current interest in women's studies, selected for intensive study. May be repeated with different topics for a maximum of six units. Examples of topics offered are Racism and Sexism, Women and Their Bodies, and Women and the Law.

498. Field Work (1-3) On demand Edmondson
Prerequisites: Women's Studies 100, consent of instructor. Practical experience in campus or community organizations concerned with women's issues. May be repeated for a maximum of six units.

499. Directed Studies (1-3) On demand Edmondson
Prerequisites: Women's Studies 100, consent of instructor. Independent work in areas of special interest to student and instructor. May be repeated for a maximum of six units.



Special Programs

Administrative Officer

Dr. Richard H. Wilde	Associate Vice President for Academic Affairs—Instructional Programs	SSA-306

Directory of Programs

Program	*Director*	*Office*
Experiential Learning Center	Mr. Hal M. Schaffer	Union 110
General Honors Program	Dr. Lawrence S. Lerner	FO2-222
International Programs	Dr. Russell Lindquist	SSA-205
Liberal Studies for B.A. Degree	Dr. Theodore E. Nichols	FO2-223
Military Science	Air Force ROTC Office	USC
	Army ROTC Office	Psych. 433
Ocean Science Studies	Dr. Murray Dailey	SCOSC
Pre-Legal Program	Finance Department	SB2-338
	Political Science Department	SS/PA255
Special Major for B.A. Degree	Dr. William Svec	FO2-226

Experiential Learning Center

Director: Hal M. Schaffer.

EPIC Program Coordinator: Ruby Leavell.

The purpose of the Experiential Learning Center (ELC) is to offer students the opportunity to engage in supervised volunteer or paid field experience programs. The center is comprised of two programs, the Educational Participation in Communities (EPIC) volunteer field experience program and the Cooperative Education (Co-op) paid field experience program. These programs are designed to help students gain deeper understanding of the relationship between classroom theory and practical application through on-the-job exposure to professionals in the field. The programs provide an organized plan utilizing various forms of classroom work and carefully selected field experience settings which together will help to enhance the total education of students.

Lower Division

297. EPIC Field Experience (3) F, S Faculty
Prerequisite: Advisement through ELC Office. Volunteer field work is arranged in selected agencies in such areas as elementary and secondary schools, geriatrics, legal, medical, mentally and physically handicapped, pre-schools and probation. The course offers the student an opportunity to test occupational goals by applying academic theory to real situations. Students will be expected to present detailed written reports on work done. Evaluation on Credit/No Credit basis. (Class activity 2 hours, agency activity 6 hours.)

Upper Division

497. EPIC Field Experience (3) F, S Faculty
Prerequisites: Upper division standing, advisement through ELC Office. Volunteer field work will be arranged in selected agencies in such areas as elementary and secondary schools, geriatrics, legal, medical, mentally and physically handicapped, pre-schools and probation. The course offers the student an opportunity to test occupational goals by applying academic theory to real situations. Students will be expected to present detailed written reports on work done. Evaluation on Credit/No Credit basis. (Class activity 2 hours, agency activity 6 hours.)

498. Co-op Field Experience (3) F, S Faculty
Prerequisites: Upper division standing, consent of the Cooperative Education Officer. Designed for students enrolled in or planning to enroll in Co-op Field Experience. Students will use their on-the-job experiences as a basis for analysis, goal setting and problem solving. The theories and concepts and skills will be taught by a combination of lecture, discussion, inventories, reading, journal writing, simulations, exercises, role playing and interviews. Credit/No Credit grading only.

General Honors Program

Director: G. Eric Massey.

Freshmen who wish to satisfy the University requirement in general education by taking a sequentially organized and integrated program of courses in the liberal arts and sciences are encouraged to apply for admission to the General Honors Program.

The specific intent of the program is to provide academically qualified students with a comprehensive, in-depth understanding of the relative nature and scope of inquiry in its many fields, as well as with an appreciation of diverse methods of inquiry, skill at articulating and communicating findings, and the ability to criticize intellectual pretensions. While such capacities may be acquired by shrewd selection among the many elective courses satisfying one or the other of the general education categories, such a result is largely a matter of lucky accident, and not so likely to occur as from the discipline of a structured program of courses, whose staff expressly designed them to meet such a need, and who are cooperatively dedicated to its realization. The program is cumulative, each successive course building on its predecessors. It aims at conceptual mastery of the institutions of inquiry rather than the assimilation of more or less random information derived from their conduct. It deals in principles and foundations rather than in the detached consequences of their application. It self-consciously seeks wisdom, cognitive sophistication, judgemental competence, and a grasp of the range of human knowledge. It is offered with the conviction that, while society and its members pursue the specializations and expertise upon which the modern world undoubtedly depends for its qualitative survival, something vital to civilization is lost if men and women do not strive concurrently to develop intellectual catholicity and a working vision of culture as a whole.

In no semester do honors classes constitute the entirety of the full-time student's program; further classes are selected from the regular curriculum in one or another of the major fields of study. Honors is not a major; though the breadth of its courses and the concentration of honors classes in the lower division should be of value to the student who has not yet decided on one. The University awards a certificate to those who successfully complete the honors thesis.

The program basically consists of 14 courses (totalling 40 units) which satisfy the general education requirement, followed by the opportunity to undertake independent study under tutorial supervision and the preparation of the thesis (Honors 496 and 498). These courses must be taken in the order indicated. Exceptions to this rule are: 1) Students may take Honors 140 and Honors 170 whenever they choose; and 2), students may be exempted from some required courses on an individual basis, it being the policy of the program that no student be required to take a course whose level of sophistication is lower than work he has already done, or any course duplicating courses required by a major. Thus students majoring in certain fields may seek waiver of one or more honors courses, and thereby reduce the number of honors units required for the certificate. In addition, exceptionally well-prepared students are encouraged to seek "Advanced Placement" through procedures explained elsewhere in this *Bulletin*.

The program offers other courses (Honors 290, 490, and 499) enabling students to extend their honors experience; but such courses may not be regularly available, and are in any event elective.

The freshman, sophomore, and junior level courses, taken together with the intensive insight gained by the student in pursuit of his or her major, empower the candidate for an honors certificate to undertake the tutorial and the thesis.

The subject of the thesis is often chosen within or as related to the student's major, and is intended to be a modest but genuine contribution to human knowledge. The honors thesis is of value both as a preparation for advanced study and as a demonstration that the student has acquired the intellectual confidence and the independence of mind that characterize the maturely educated person, ready to break new ground.

While the program is directed primarily at entering freshmen, students are invited to apply for it at any time during their college careers. However, in order for the director to approve their admission to the program in-course, it is likely that students will have to make prior adjustments in their programs. The requirements for admission to the program are: evidence of earlier academic distinction, better than average literacy, the willingness to both read and write extensively, and a strong intellectual motivation. But those whose imaginations and determination are captured by the ideal herein pictured should not let past failures to excel discourage them from applying. The most important ingredient in qualifying for this opportunity is an ardent desire to do so.

Students are, of course, free to withdraw from the program at any time, without loss of such general education credits as they may already have earned in its classes. But the need of all those who enter to commit themselves in intent to the full experience is emphasized. Both the program's need to plan, and the accomplishment of the aims of the curriculum, require a relative stability in the group population. As a play cannot be adequately judged by a scene, or a poem by a line, so the impact of the honors program cannot be felt by those who only encounter its first elements.

Requirements for the Certificate in General Honors:

1. Completion of Honors 101A-B, 131A-B, 140, 170, 195 (2 units), 201A-B, 252A-B, and 301 (6 units).
2. Completion of Honors 496 and 498 with a grade of B or better.

Lower Division

101A-B. Studies in Communication (3,3) F, S
Corequisite: Honors 131A-B, Honors 195 (both semesters). Introduction to basic written, oral, logical, and mathematical skills, and to the elements of communications theory. Emphasis on expository writing and analysis, symbolic logic, and the foundations of quantitative systems.

131A-B. Studies in Social Science (3,3) F, S
Corequisite: Honors 101A-B, Honors 195 (both semesters). Introduction to the concepts and methods of the social sciences through the study of selected topics and problems.

140. Studies in American Political Institutions (3) F
American political institutions and processes at the federal, state and local levels. Executive, legislative and judicial interaction will be analyzed, together with informal participants in policy-making such as parties, media and interest groups. Emphasis of individual sections will vary with the interests and particular expertise of the faculty.

170. Studies in American History (3) S
A consideration of major issues and topics in the development of American society, with an emphasis upon the historical background of contemporary concerns.

195. Academic Perspectives Colloquium (1) F, S
Corequisite: Honors 101A-B, Honors 131A-B. A lecture series introducing current issues and research in the academic disciplines and allied areas. Must be taken twice to satisfy the requirements for the General Honors Certificate. Repeatable with program permission to a maximum of three units. This course is the only honors program course which is open to general enrollment and is recommended to students-at-large who seek a one-unit course.

201A. Studies in the Fine Arts (3) F
Prerequisite: Honors 101A-B, Honors 131A-B, and Honors 195 (2 units). Corequisite: Honors 252A. Exploration of that part of the cultural heritage of modern society comprising the non-verbal arts.

201B. Studies in Literature (3) S
Prerequisite: Honors 201A. Corequisite: Honors 252B. Exploration of that part of the cultural heritage of modern society that is represented by creative literature and drama. Studies the means by which the creative artist has used the written word to elucidate and illuminate the human condition.

252A-B. Studies in Natural Science (4,4) F, S
Prerequisite: Honors 101A-B, Honors 131A-B, and Honors 195 (2 units). Corequisite: Honors 201A-B. Intensive study of the nature, substance and significance of the processes of scientific thought and operation. Emphasis will be placed on the basic sciences of physics, chemistry and biology; on the essential unity of science; and on the cosmological, geological, chemical and biological origins of the world as we know it. (Lecture 3 hours, laboratory 3 hours.)

290. Special Topics (1-3) On demand
Topics of current interest involving multi-disciplinary studies, and aimed at intensifying the honors experience. May be repeated with different topics to a maximum of six units with the consent of the director.

Upper Division

301. Junior Colloquium (3) F, S
Prerequisite: Honors 201B and Honors 252B. Studies of selected interdisciplinary topics, problems or issues with a view toward integration of the areas of study involved in lower division courses. The course will usually concentrate in the Fall semester on the theory of inquiry or the philosophy of science, and in the Spring semester on conceptual criticism. Must be taken twice to qualify for the Honors Certificate.

496. Honors Tutorial (1-3) F, S
Prerequisite: Honors 301 or consent of the director. Supervision of independent study, involving an individually contracted project, by some member of the faculty. Work in the course is normally a preparation for the honors thesis. May be repeated with the consent of the director.

498. Honors Thesis (3) F, S
An individual project, construction, or presentation, generally of a multi-disciplinary nature, aiming at a modest but significant contribution to human knowledge or culture. To be carried out under the supervision of a faculty member.

499. Directed Studies (1-3) On demand
Individual work done outside the regular honors curriculum, approved and supervised by a faculty member. Repeatable with program permission.

Additional information regarding the Honors Program, and applications for admission, may be obtained from the director of the program.

International Programs

The California State University and Colleges' Year Abroad

The California State University and Colleges (CSUC) offers opportunities for students to pursue their studies at a distinguished foreign university or special program center. Under the auspices of the CSUC Office of International Programs, participants in this program are concurrently enrolled at their home campus, where they earn academic credit and maintain campus residency, and at an overseas institution of higher education.

Cooperating universities abroad include the University of Provence, France; the Universities of Heidelberg and Tubingen, Germany; Hebrew University of Jerusalem in Israel; the University of Florence, Italy; the Universidad Ibero-Americana, Mexico; the Universidad católica, Peru; the Universities of Granada and Madrid, Spain; the University of Uppsala, Sweden; Lincoln University College of Agriculture and Massey University, New Zealand; and Waseda University of Japan. In the United Kingdom, cooperating universities (which may vary from year to year) include, among others, Aberdeen, Dundee, Edinburgh, Bangor, Heriot-Watt, Leicester, London, Manchester, Nottingham, Oxford, Liverpool, Lampeter, Sheffield, and Strathclyde. In addition, CSUC students may attend a special program in Taiwan, Republic of China, or an architecture program in Copenhagen, Denmark.

Eligibility for application is limited to those students who will have upper division or graduate standing by September, 1979 at a CSUC campus; who have demonstrated the ability to adapt to a new cultural environment; and, who, in the cases of France, Germany, Mexico, Peru and Spain, will have completed at least two years of college level study in the language of instruction at the host university, or possess equivalent knowledge of the language. At the time of application, students must have a minimum cumulative grade point average (g.p.a.) for all college-level work of 2.5, except for the programs in Israel, New Zealand, Peru and the United Kingdom where a minimum g.p.a. of 3.0 is required. Selection is competitive and is based on home campus recommendations and the applicant's academic record. Final selection decisions are made by a statewide committee of faculty members, except for the programs in New Zealand and the United Kingdom where final selections are made by the respective host universities.

The International Programs supports all tuition and other academic and administrative costs overseas for each of its participants to the same extent that such funds would be expended to support similar costs in California. Students assume costs for pre-departure orientation, insurance, transportation, housing and meals. Home campus registration and other fees and personal incidental expenses or vacation travel costs while abroad are also paid by the student. Non-resident students are subject to non-resident fees. 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. International Programs participants may apply for any financial aid available at their home campuses, except for campus work-study.

Applications for the 1979-80 academic year must be submitted before February 9, 1979, except for New Zealand and the United Kingdom. Applications for the New Zealand program must be submitted by May 11, 1979, for participation during calendar year 1980. (The academic year in New Zealand begins in February and ends in October.) United Kingdom applications must be submitted by January 5, 1979.

Detailed information and application materials may be obtained from the International Education Center, this University; further information may also be obtained by writing to The California State University and Colleges International Programs, 400 Golden Shore, Suite 300, Long Beach, California 90802.

IS 192. Projects in Study Abroad: (subject)
Open only to students in the California State University and Colleges' International Programs. Study undertaken in a university abroad under the auspices of the California State University and Colleges.

IS 492. Projects in Study Abroad: (subject)
Open only to students in the California State University and Colleges' International Programs. Study undertaken in a university abroad under the auspices of the California State University and Colleges.

Summer Session at the University of Uppsala

The University sponsors and serves as the administrative center in the United States for an International Summer Session, offered each year by the University of Uppsala in Uppsala, Sweden. This six-week session, scheduled for the second half of June and the full month of July, is open to college graduates and to undergraduates who have completed their college freshman year. Courses are offered in history, marketing, political science, sociology, literature and art, all taught in English by Uppsala and guest European professors. Swedish language instruction is also offered. Each course carries three units of credit. Two courses, or a total of six units, may be taken during the session. For students of this University, all courses have been approved in advance for transfer credit.

Tuition and board and room for the six weeks are approximately $860. This excludes transportation and personal expenses of the student.

Course descriptions, additional information and application forms are available from the Coordinator of International Programs, International Education Center.

Liberal Studies Major for the Bachelor of Arts Degree (2-0410)

Liberal Studies Program Certificate

Students declaring liberal studies as their major will complete the liberal studies core and one approved concentration. Students declaring any other baccalaureate major offered by the University may complete the core and earn the Liberal Studies Program Certificate. The program is supervised by the Liberal Studies Governing Committee reporting to the Associate Vice President for Academic Affairs-Academic Programs and Services.

CORE: A total of 84 units distributed in four areas: (1) English and American Language and Literature (18-21); (2) Mathematics, Biological and Physical Science (21-24); (3) Behavioral and Social Science (21-24); (4) Humanities, Fine Arts and Non-European Cultures (21-24). Completion of the Liberal Studies Core waives the subject matter competency examination for the preliminary multiple subject credential.

CONCENTRATION: A minimum of 24 units in one liberal studies discipline; 15 units must be upper division; nine units may be used in both the concentration and the core.

The core meets all of the University requirements in general education. Courses taken at other colleges that are accepted by the department concerned as equivalent to courses in concentrations and in the core may in all cases be substituted for courses in this program. Core requirements in the area of a student's major or concentration may be replaced by courses more appropriate to that major or concentration, with the approval of the Liberal Studies Governing Committee. All equivalencies, substitutions or waivers of requirements must be approved by the Liberal Studies Governing Committee.

Liberal studies majors may devote all or part of their elective units beyond the concentration and core to such applied programs as the 24 units in professional education required for the multiple subject credential. Although a second concentration is not required, liberal studies majors may elect a second approved concentration or may propose a second concentration that is interdisciplinary, interschool or in other respects tailored to individual objectives.

All liberal studies majors and students planning to earn the Liberal Studies Program Certificate should obtain early advisement in the Special Programs Office.

Major in Liberal Studies for the Bachelor of Arts Degree

Students in this degree program must complete the core and one approved concentration. Approved concentrations include:

American Indian Studies
American Studies
Anthropology
Art
Asian American Studies
Bilingual Spanish / English
Biology
Black Studies
Comparative Literature
Economics
English
French
Geography
Geology
German
History
Latin American Studies
Mathematics
Mexican American Studies
Music
Philosophy
Psychology
Religious Studies
Spanish
Speech Communication

Consult the Liberal Studies advisers about requirements in each concentration and about additional concentrations that may be available.

300. Introduction to Liberal Studies (3) F, S Faculty
Introduces students to multidisciplinary studies as included in the liberal studies major. Emphasis on understanding the character of major fields of knowledge and on the interrelationship of language arts, humanities, fine arts, natural and social sciences.

CORE: A total of 84 units distributed as specified in Areas I, II, III and IV following. Note that taking the minimum 18 units in Area I means that 24 units should be taken in at least one other area.

Area I: English and American Language and Literature (18 unit minimum). Required: English 100, and either English 184, 180 or Comparative Literature 184. Courses to complete the 18 unit minimum must be selected from the following groups: (A student electing to take 19-21 units in Area I may choose three units from the following listed courses or from other offerings in the English and Speech Communication Departments.)

Group 1. Composition and/or Analysis of Literature
English 205, 206, 300, 310, 317, 400, 405, 406, 407, 415, 481, 482; Black Studies 450; Mexican American Studies 460A,B. No more than one course may count toward the 18 unit minimum.

Group 2. Grammar, Language Structure or Linguistics
Anthropology 170, 413, 414, 471, 472; English 320 or 325, 420, 421, 423, 425, 426; Speech Communication 448; Communicative Disorders 361, 478. English 320 or 325 is required for the Multiple Subject Credential. No more than two courses may count toward the 18 unit minimum.

Group 3. Speech Communication
Speech Communication 130, 132, 133, 246, 271, 332, 333, 335, 352, 358, 439, 446. No more than two courses may count toward the 18 unit minimum.

Group 4. English and American Literature
American Indian Studies 340; English 250A, 250B, 363, 370A, 370B, 385, 386, 398, 467A, 467B, 468A, 468B, 475, 476, 477A, 477B, 478; Mexican American Studies 205. No more than two courses may count toward the 18 unit minimum.

Area II: Science and Mathematics (21 unit minimum). Required: two courses from each of Groups 1-3, as specified following.

Group 1. Mathematics
Mathematics 110 and 111, or 110 and one from 114, 115, 116, 180. Advanced mathematics students may take two courses from the 114, 115, 116, 180 sequence. Credential students should complete 110 and 111 before seeking admission to the elementary education professional courses if possible.

Group 2. Biological Sciences
One course from Biology 200, 210, 212, 216. A second course is required and may be selected from biology or microbiology offerings or Geography 442.

Group 3. Physical Sciences
One course from Chemistry 100, 111A, 200; Physics 100A, 104; Geology 102 together with 104 or 105; Geology 103 together with 104 or 105. A second course is required from chemistry, geological sciences or physics offerings (including astronomy) or Geography 140, 440, 444.

Group 4. Electives
Remaining units toward the 21 unit minimum in Area II may come from appropriate courses in mathematics, biology, microbiology, chemistry, geological sciences, symbolic logic and statistics.

Area III: Behavioral and Social Sciences (21 unit minimum). Required: three courses from Group 1, with at least two disciplines represented; one course from Group 2; one course in U.S. history; one course in U.S. government and constitution. History 162A,B will satisfy both the U.S. history requirement and the following Group 2.

Group 1. Basic theoretical courses showing how social institutions are analyzed and how policy, social and behavioral problems are approached.
Anthropology 100, 120; Economics 200, 201, 300, 368; Geography 100, 160, Political Science 201, 215; Psychology 100, 150; Sociology 100, 142.

Group 2. British, Latin American or European History
History 131A, 131B, 151A, 151B, 162A, 162B.

Group 3. Electives
Additional units toward the minimum 21 in Area III may be selected from appropriate courses offered by Urban Studies, the ethnic studies departments (American Indian Studies, Asian American Studies, Black Studies, Mexican American Studies) or the disciplines listed in Groups 1 and 2 above.

Area IV: Humanities, Fine Arts and Non-European Cultures (21 unit minimum). Required: three courses from Group 1 including one course in art and one in music; two courses in Group 2.

Group 1. Art and Music
Art 100, 110, 111, 112A, 112B, 300, 302, 400; Music 180, 190, 290, 385, 390.

Group 2. Non-European Cultures
American Indian Studies 100, 101, 320, 360; Anthropology 321, 322, 323, 324, 325, 327, 331, 332, 333, 336; Art 113A, 113B; Black Studies 140, 160, 200, 337, 343; Comparative Literature 124, 234, 325, 403; History 181A, 181B, 382A, 382B, 383A, 383B, 385A, 385B, 491A, 491B; Mexican American Studies 380, 420; Music 490; Philosophy 306, 307; Religious Studies 152, 331, 341, 343, 351; History/Religious Studies 481.

Group 3. Electives
Additional units toward the 21 units required in Area IV may be selected from above listed courses or from the Art, Comparative Literature, Music, Philosophy, Theatre Arts, Dance or foreign languages departments or the religious studies program.

Military Science

Air Force ROTC

Through arrangements with the University of Southern California (USC), the University of California at Los Angeles (UCLA) and Loyola Marymount University (LMU) two, three and four-year Air Force Reserve Officers Training Corps (AFROTC) programs are available to all qualified students at California State University, Long Beach. Academic units earned in this program are counted as elective credits toward graduation. Successful completion of the AFROTC programs leads to a commission as a second lieutenant in the Air Force Reserve. Four-year scholarships must be applied for before December 15 in the calendar year prior to entering college the following fall. Three and two-year scholarships are available to those already in college. All scholarship recipients receive full tuition, required fees and books and $100 a month. All students enrolled in the final two years of the program receive an allowance of $100 a month during the school year. All qualified cadets are provided 25 hours of flying training during their final year in the program. For additional information contact the Office of Career Planning and Placement or Dr. Gene Simonson, Economics Department, at California State University, Long Beach or the Department of Aerospace Studies (AFROTC), University of Southern California, Los Angeles, California 90007, phone (213) 741-2670, the Department of Aerospace Studies, University of California, Los Angeles, Los Angeles, California 90024, phone (213) 825-1742/1743 or Department of Aerospace Studies, Loyola Marymount University, Los Angeles, California 90045, phone (213) 642-2770.

General Information

The Department of Aerospace Studies offers programs of instruction leading directly to a commission as an officer in the United States Air Force. To obtain this commission, qualified male and female students must successfully pass an aptitude test, a physical examination, complete either program of instruction and concurrently receive or possess an undergraduate degree. Those male students who qualify for and plan to enter Air Force Pilot Training will be given flight instruction as part of their last year in the program. Highly qualified students may compete for full-tuition assistance.

Two-Year Program

This program is available to any student having two academic years remaining either at the graduate or undergraduate level. The program consists of a six-week summer field training course followed by two years of aerospace studies courses (AS300 and AS400, totaling 18 quarter hours or 12 semester hours). Application for this program should be made in the fall semester preceding the summer field training course.

Four-Year Program

This program consists of four years (24 quarter hours or 16 semester hours) of aerospace studies courses plus a four-week summer field training course. Enrollment in the first two years of Aerospace Studies (AS100 and AS200) is accomplished in the same manner as in any other course of instruction at USC, UCLA or LMU. Application to enroll in the last two years (AS300 and AS400) must be made while enrolled in AS200.

Curriculum

The AFROTC curriculum consists of the following series of courses (semester hours at USC, quarter hours at UCLA and semester hours at LMU):

AS100 (Freshman year).

These courses examine the role of the Air Force in the contemporary world by studying the total force structure, strategic offensive and defensive forces, general purpose forces and aerospace support forces. (Lecture 1 hour, laboratory 1 hour per quarter/semester.)

AS200 (Sophomore year).

These courses include the study of the development of air power from balloons and dirigibles through the peaceful employment of U.S. power in relief missions and civic action programs in the late 1960s and also the air war in Southeast Asia. (Lecture 1 hour, laboratory 1 hour per quarter/semester.)

AS300 (Junior year).

These courses examine military professionalism and existing patterns of civil-military relations; analyze the international and domestic environments affecting U.S. defense policy; examine the post World War II development of defense strategy and the methods of managing conflict; and study the manifold variables involved in the formulation and implementation of national security policy. (Lecture 3 hours, laboratory 1 hour per quarter/semester.)

AS400 (Senior year).

These courses study management from the point of view of the Air Force junior officer. Within this framework the subjects of military leadership and military law have been integrated. Attention is devoted to the progressive development of communicative skills needed by junior officers. (Lecture 3 hours, laboratory 1 hour per quarter/semester.)

Field Training Course

This course is conducted during the summer months at selected Air Force installations within the continental limits of the United States. Successful completion is required to be eligible for a commission. For those students enrolling in the two-year program the summer course is six weeks long and includes study of the academic subjects covered in Aerospace Studies 100 and 200. The six-week camp pays $524.00. Students enrolled in the four-year program take a four-week summer course which is normally scheduled between the Aerospace Studies 200 and 300 years. The four-week camp pays $322.00.

Army ROTC

The Army Reserve Officers Training Corps (ROTC) program is available to qualified California State University, Long Beach students through the University of California, Los Angeles program. Classes are conducted at the Army Reserve Center, on Willow near Lakewood, Long Beach, about five minutes from the campus.

Four-, three- and two-year programs leading to a commission as a second lieutenant in the U.S. Army or Army Reserve are offered. Participants must be physically qualified full-time students at the undergraduate or graduate level. Courses consist of two academic hours once a week, plus a one-hour leadership laboratory. Academic credits earned in the program may be counted as electives within degree requirements. All students enrolled in the final two years of the program receive an allowance of $100 per month during the school year.

The normal four-year program consists of the basic and advanced courses. The basic course (Military Science I and Military Science II) is normally taken in the freshman and sophomore years, with no military obligation. The advanced course (Military Science III and Military Science IV) covers the final two years and includes a summer advanced camp with pay.

The three-year program enables a student with three academic years remaining in college to complete the program by taking two military science courses (half courses) per term the first year plus a one-hour weekly laboratory.

The two-year program (advanced course only) is available to students who have two years remaining toward a baccalaureate or graduate degree. The student attends a six-week basic camp, with pay, the summer before enrolling in the advanced course, with application by March of that year. Camp attendees are under no obligation and may compete for two-year scholarships during basic camp.

Veterans may qualify to enter the advanced course without basic camp. They are eligible to receive the $100 per month allowance as well as GI Bill benefits to which they are entitled.

Prerequisite to commissioning, the advanced camp is conducted at Fort Lewis, Washington, normally between the first and second years of the advanced course. Leadership development is emphasized during the six-week summer practicum. The cadet is paid approximately $400, plus transportation costs.

Scholarships are available competitively to all students, in addition to the monthly allowance for all advanced course students. Scholarship recipients receive full tuition, required fees and books and $100 per academic month for the term of the scholarship. High school seniors must apply by December 1 of the year preceding college entrance for four-year scholarships; recipients must attend an institution offering the four-year Army ROTC program. Three-, two- and one-year scholarships are available to students enrolled in Army ROTC. Students cross enrolled while attending other institutions are eligible.

Military Science Curriculum

MS I (First Year): The U.S. Defense Establishment (two quarters); Theory of Warfare
Evolution of Defense Department and the military services with emphasis on U.S. Army; military institutions, other elements of national policy/strategy. Theory, nature, causes and elements of warfare; evolution of weapons/tactics.

MS II (Second Year): U.S. Military History
In-depth study of U.S. military history from 1755 to present. Emphasis on leaders, actions, opposing strategies and related considerations.

MS III (Third Year): Psychology of Leadership, Psychology of Learning Applied to Teaching
Concepts in behavioral sciences for leadership/management; problems in directing and controlling. Learning theories, application of learning theories to teaching, lesson planning, testing, evaluation, student teaching.

MS IV (Fourth Year): Decision-making, Military Legal Systems, Military-Societal Relations
Decision-making process, optimizing decisions, information/systems management, operations research. Military law and legal systems. U.S. Army as professional organization, relationship to society, professional ethics, social problems.

Flight training is offered on a competitive basis in the second year of the advanced course to students who have an aptitude for flying and meeting physical qualifications.

For additional information contact the Department of Military Science, University of California, Los Angeles, Los Angeles, California 90024; phone (213) 831-7463.

Center for Ocean Science Studies

Director: Dr. Murray D. Dailey.

The Southern California Ocean Studies Consortium (SCOSC) provides opportunities for undergraduate and graduate studies in the coastal environment. Special courses designed to be offered by the consortium are designated as ocean studies courses while other courses normally offered by participating present-member schools may be used as appropriate with the approval of the Consortium Director. While permanent facilities are being constructed, the SCOSC is quartered in Room 246, 925 Harbor Plaza, Long Beach.

Sea-going research laboratory and classroom facilities are provided aboard the R.V. Nautilus, a 50-foot purse seiner type vessel. The Nautilus is the property of the SCOSC and its use is scheduled through the office of the SCOSC Director.

The participating State University and College institutions are Dominguez Hills, Fullerton, Long Beach, Los Angeles, Northridge and Pomona.

Upper Division

412. Ocean Science Workshop (3) SS Faculty
The physical, chemical and geological properties, the biological and engineering characteristics and problems involved in the Southern California Bight with emphasis on the Santa Monica and San Pedro basins. May be repeated for credit to a maximum of six units. (Lecture 2 hours, laboratory 3 hours.)

499. Special Problems in Ocean Studies (1-3) F, S, SS Faculty
Prerequisite: Consent of director. Research in a specific aspect of biology, water quality, geology, microbiology or ocean engineering. This course is designed to allow students working on specific topics access to additional material through utilization of the research vessel Nautilus. Individuals using the vessel would do so as a guest of the crew's leader on a regularly scheduled trip. May be repeated to a maximum of three units.

Pre-Legal Program

Professional schools in many universities either require or recommend that applicants complete four-year programs for admission. Although the professional schools do not always require a bachelor's degree, they generally encourage basic preparation and a broad general education leading to that degree before beginning specialization.

Students planning to enter law school may elect any one of several majors. However, the major chosen and the courses selected outside the major field should demand a high level of performance in reading difficult material, writing clearly and understanding abstract concepts. Pre-legal students are advised to take the minimum program to meet the requirements of their chosen major and courses beyond the introductory survey level in other selected fields. A distribution of course sequences between the social sciences, the natural sciences and the humanities is desirable. Students should consult with designated pre-law advisers in the Finance Department or the Political Science Department concerning entrance requirements of specific law schools.

Special Major for the Bachelor of Arts Degree (code 2-0405)

The special major for the bachelor of arts degree provides an opportunity for students to engage in an individualized course of study leading to a degree when legitimate academic and professional goals are not accommodated by standard degree majors. The special major consists of correlated studies in two or more departments. It is not intended as a means of bypassing normal graduation requirements or a means by which students may graduate who fail to complete the degree major in which they are enrolled. A candidate must apply for approval of a special major when at least one full year of academic work (more than 30 units) remains to be completed to meet minimum degree requirements. Each special major approved is based upon a case-by-case justification.

Procedures

Students requesting a special major must:

1. Prepare a written statement giving their reasons for desiring a special major in terms of their academic and professional goals and explaining why they cannot meet these goals through a standard major.
2. Present the proposed program for initial review by the Special Major Director from whom they will obtain the necessary forms for the following steps.
3. Secure the signed agreement of a faculty sponsor from each of the two basic areas and the Special Major Director. These faculty members will serve as a committee for the special major.
4. In consultation with the Special Major Committee and the Special Major Director, develop a specific list of courses which will constitute the special major program.
5. Secure the signed approval of the department head in the two declared basic areas from which the special major courses are drawn in order to give the special major student priority for course admission equivalent to that of students majoring in the department.
6. The completed programs must be approved by the Special Major Committee and Vice President for Academic Affairs and must be filed in the Special Programs Office and the Records Office.

Requirements

1. The special major consists of not less than 36 units, of which at least 24 units must be upper division.
2. A minimum of 12 upper division units shall be taken in each of the two departments. Exceptions to this requirement may be made only in cases where an interdisciplinary program involves significant work in more than two departments and such a program is constituted on a cohesive core of courses leading to a specific professional or academic goal.
3. Units applied to satisfy General Education requirements may not be counted toward the Special Major.

Application forms for the special major are available in the Special Programs Office, FO2-226. The director is Dr. William Svec, FO2-226.

Center for Public Policy and Administration

Director: Melchior D. Powell.

Associate Director: Peter L. Shaw.

Administrative Assistant: William C. Manes.

Faculty Advisers: All graduate faculty and members of the Faculty Advisory Committee to the Center.

Faculty

Professor: Powell.

Associate Professors: Baget, Pflaum, Shaw.

Assistant Professors: Barber, Blumberg.

Visiting Professors: Ayres, Leach, Rowlands, Scott.

General Information

The Center for Public Policy and Administration offers an innovative graduate program leading to the master of public administration degree. Designed with a professional emphasis and a recognized need to provide students with an increased competency and perspective of the administrative processes of government, the program also seeks to develop students' abilities to apply their knowledge and leadership techniques to the solution of public policy problems.

The Center utilizes those disciplines of the University which contribute to professional education and research in the various aspects of public policy and administration. Because of the degree's flexibility, students may select a program of elective courses oriented toward a generalist program of studies, place emphasis on a staff specialization, or permit a focus on a specific public program field. In all cases a knowledge in core areas is required, but beyond this, considerable freedom of choice enables students to select subjects which fit their particular backgrounds or career objectives.

Applications are encouraged from persons with successful government service who wish to pursue, part-time or full-time, a graduate program designed to prepare them for new opportunities in public service or to expand or extend their capacities in a present position. The program provides education in public policy and administration to professional persons in such fields as public works, social services, public health, community development, criminal justice, educational administration, recreation administration, finance, personnel, policy analysis, urban and regional planning, systems analysis and urban administration.

Master of Public Administration

For detailed information concerning requirements for the master of public administration degree see the *Graduate Bulletin*.

Graduate Courses

500. Foundations of Public Policy and Administration (3)

510. Public Administrative/Management Processes (3)

525. Social Services Administration in the Public Sector (3)

545. Urban Planning Policies and Techniques (3)

555. Local Government Budget Skills (3)

565. Local Government Finance Skills (3)

585. Public Policy and Administration Internship (3)

586. City Management Internship Program (3)

590. Special Topics in Public Policy and Administration (1-3)

597. Directed Studies (1-3)

615. Seminar in the Evaluation of Public Programs (3)

650. Seminar on Issues in Contemporary Public Administration (3)

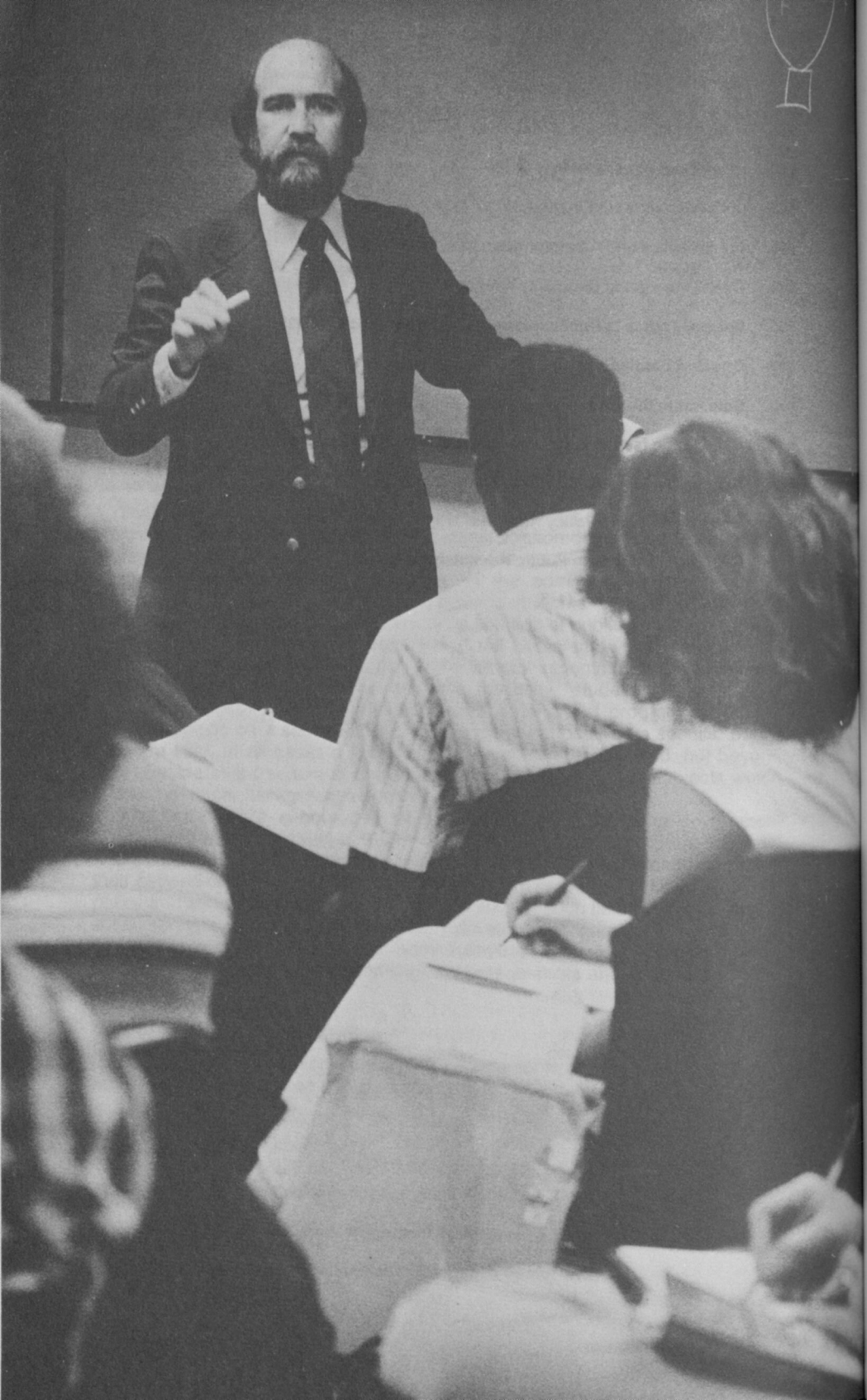
660. Seminar in Organization Theory and Behavior (3)

670. Seminar in Public Policy Analysis (3)

696. Research Methods in Public Administration (3)

697. Directed Research (1-3)

698. Thesis (1-4)



Faculty

As of December 1, 1977

(Number in parentheses indicates year of appointment)

Emeriti

Ralph K. Allen (1956) ..... Professor, English
B.A., William Jewell College; M.A., Ph.D., University of Washington. Emeritus, 1970.

Roy C. Anderson (1950) ..... Professor, Secondary Education
B.A., Augustana College; M.A., University of Michigan; Ed.D., Stanford University. Emeritus, 1974.

Olaf P. Anfinson (1956) ..... Professor, Physical Science
B.Ed., Winona State Teachers College; M.A., Ed.D., Colorado State College of Education. Emeritus, 1974.

Kenneth W. Appelgate (1965) ..... Professor, History
B.S., M.A., Ph.D., University of Washington. Emeritus, 1972.

Cecil Armour, P.E. (1968) ..... Professor, Civil Engineering
B.A.Sc., M.A.Sc., University of Toronto; P.E. in C.E., Province of Ontario, Canada, California. Emeritus, 1972.

Clarence P. Baker (1952) ..... Professor, English
B.S., Haverford College; M.A., Harvard University; Ph.D., University of California, Los Angeles. Emeritus, 1977.

Zelpha Bates (1953) ..... Professor, Home Economics
B.A., Washburn College; M.A., Teachers College, Columbia University; Ed.D., New York University. Emeritus, 1967.

Bela L. Biro (1959) ..... Professor, Art
Ph.D., University of Budapest. Emeritus, 1968.

Evelyn L. Blackman (1961) ..... Professor, Educational Psychology
B.A., University of Washington; M.P.H., Ed.D., University of California, Berkeley. Emeritus, 1976.

Charles J. Boorkman (1949) ..... Director of the University Library
B.A., B.S. in L.S., University of Illinois; M.A., University of Southern California. Emeritus, 1976.

Dean O. Bowman (1973) ..... Dean, School of Business Administration
B.S., M.S., Purdue University; Ph.D., University of Michigan. Emeritus, 1977.

J. Wesley Bratton (1950) ..... Professor, Education
B.A., Seattle Pacific College; M.S., Ed.D., University of Southern California. Emeritus, 1969.

Ernest G. Brind (1965) ..... Associate Professor, Mechanical Engineering
B.E., M.S., Ed.D., University of Southern California. Emeritus, 1971.

Ruth M. Bryan (1962) ..... Assistant Fine Arts Librarian
B.A., M.A., University of California, Los Angeles; M.S. in L.S., University of Southern California. Emeritus, 1977.

David L. Bryant (1949) ..... Executive Dean, Administration
B.S., University of Southern California; M.A., Stanford University; Ed.D., University of Southern California. Emeritus, 1969.

R. Burdett Burk (1954) ..... Professor, Elementary Education
B.S., Ball State Teachers College; M.S., Ed.D., Indiana University. Emeritus, 1975.

Maude C. Carlson (1952) ..... Head Social Science Reference Librarian
A.M., M.A. in L.S., University of Michigan. Emeritus, 1967.

George R. Cerveny (1952) ..... Professor, English
B.S., M.A., University of Idaho; Ph.D., New York University. Emeritus, 1967.

Joseph Contreras (1961) ..... Associate Professor, Spanish-Portuguese
B.A., M.S., University of Southern California. Emeritus, 1977.

Corinne A. Crogen (1951) ..... Professor, Women's Physical Education
B.Ed., La Crosse State Teachers College; M.S., Wellesley College; Ed.D., University of Michigan. Emeritus, 1974.

Marcel J. DeLotto (1954) ..... Professor, Physical Education
B.S., Randolph-Macon College; M.A., University of North Carolina; Ph.D., University of Oregon. Emeritus, 1972.

Marjorie B. Dole (1959) ..... Counselor
B.A., M.A., California State University, Long Beach; Ed.D., University of Southern California. Emeritus, 1973.

Dale D. Drum (1956) ..... Professor, Speech Communication
B.A., M.A., Ph.D., University of Southern California. Emeritus, 1978.

John H. Dudley, P.E. (1960) ..... Professor, Civil Engineering
B.S., United States Military Academy; M.S., Massachusetts Institute of Technology. Emeritus, 1975.

Robert P. Durbin (1950) ..... Professor, Biology
B.A., San Diego State University; M.S., Ed.D., University of Southern California. Emeritus, 1972.

Dorothy L. Ericson (1953) ..... Professor, Women's Physical Education
B.S., University of Wisconsin; M.A., Ed.D., Teachers College, Columbia University. Emeritus, 1974.

Ethel E. Ewing (1952) ..... Professor, Anthropology
B.A., Muskingum College; M.A., Radcliffe College; Ph.D., Cornell University. Emeritus, 1971.

William E. Fisher (1955) ..... Professor, Secondary Education
B.A., Baker University; Ph.D., University of Kansas. Emeritus, 1973.

Francis J. Flynn (1950) ..... Executive Dean—Development
B.A., M.S., Ed.D., University of Southern California. Emeritus, 1971.

Robert W. Frazer (1965) ..... Professor, History
B.A., M.A., Ph.D., University of California, Los Angeles. Emeritus, 1975.

Audrey Fuss (1966) ..... Associate Professor, Sociology
B.A., University of California, Berkeley; M.A., Ph.D., University of California, Los Angeles. Emeritus, 1977.

Stanley R. Gabrielsen (1958) ..... Professor, Recreation
B.A., Gustavus Adolphus College; M.A., Ed.D., New York University. Emeritus, 1976.

Juliana T. Gensley (1962) ..... Professor, Elementary Education
B.A., University of California, Los Angeles; M.A., California State University, Los Angeles; Ed.D., University of California, Los Angeles. Emeritus, 1977.

Nadyne C. Gibson (1955) ..... Professor, Music
B.S., B.Mus., Fort Hays Kansas State College; M.A., Northwestern University. Emeritus, 1977.

Frank F. Gorow (1953) ..... Professor, Secondary Education
B.S., University of Washington; Ed.D., University of California, Los Angeles. Emeritus, 1974.

Ross Hardy (1949) ..... Professor, Zoology
B.S., M.S., University of Utah; Ph.D., University of Michigan. Emeritus, 1973.

Braxton C. Henderson (1964) ..... Professor, Quantitative Systems
B.S., M.Ed., University of California, Los Angeles; Ed.D., Stanford University. Emeritus, 1975.

Don A. Hennessee (1952) ..... Assistant Humanities Librarian
B.A., University of Redlands; B.S. in L.S., University of Illinois; M.A., Mexico City College. Emeritus, 1976.

Marion R. Johnston (1955) ..... Professor, Elementary Education
B.A., Northwestern University; M.A., Stanford University; Ed.D., University of California, Los Angeles. Emeritus, 1973.

Oliver P. Johnstone (1951) ..... Professor, Elementary Education
B.S., Miami University, Ohio; M.A., Stanford University; Ed.D., University of Southern California. Emeritus, 1972.

Irene Kanasi (1959) ..... Humanities Catalog Librarian
B.A., University of Science, Budapest; M.A. in L.S., University of Southern California. Emeritus, 1977.

Earl C. Kidd (1952) ..... Professor, Men's Physical Education
B.S., Oregon College of Education; M.S., University of Oregon. Emeritus, 1973.

Kephas A. Kinsman (1949) ..... Professor, Secondary Education
B.A., University of California, Los Angeles; M.A., Ed.D., University of Southern California. Emeritus, 1972.

Carl E. Klafs (1956) ..... Professor, Men's Physical Education
B.S., Indiana University; M.A., Montana State University; Ph.D., University of Southern California. Emeritus, 1976.

I. Aileen Poole Koehler (1959) ..... Professor, Educational Psychology
B.A., University of Michigan; M.A., Ohio University; Ph.D., University of California. Emeritus, 1974.

Stephen Kulik (1959) ..... Professor, Mathematics
Doktor Mathematichnikh Nauk, Institute of Mathematics; University of Kiev. Emeritus, 1972.

Richard W. Leutwiler, Jr., P.E. (1959) ..... Professor, Mechanical Engineering
B.S. in M.E., University of Illinois; M.S. in M.E., State University of Iowa. Emeritus, 1978.

Rodney C. Lewis, P.E. (1958) ..... Professor, Electrical Engineering; Associate Dean, School of Engineering
B.S., University of Southern California; M.S., Iowa State University. Emeritus, 1973.

Lucile Logan (1964) ..... Assistant Professor, Microbiology
B.S., University of Montana; M.A., University of Utah. Emeritus, 1975.

Walter J. Lyche (1957) ..... Associate Professor, Mathematics
B.A., St. Olaf College; M.A., University of Minnesota. Emeritus, 1974.

William D. McIlvaine, P.E. (1964) ..... Professor, Civil Engineering
B.S., M.S.E., University of Minnesota. Emeritus, 1974.

Daniel C. McNaughton (1958) ..... Professor, Secondary Education
B.S., Colorado A & M College; M.A., University of Chicago; Ed.D., Stanford University. Emeritus, 1974.

R. Monteen Manning (1959) ..... Head Education-Curriculum Librarian
B.A., Lander College; A.B. in L.S., Emory University. Emeritus, 1973.

Kenneth E. Maxwell (1963) ..... Professor, Biology
B.S., University of California; Ph.D., Cornell University. Emeritus, 1973.

Halvor G. Melom (1950) ..... Professor, History
B.A., California State University, Fresno; M.A., University of California; Ph.D., University of Missouri. Emeritus, 1974.

Maxine O. Merlino (1952) ..... Professor, Art
B.A., M.A., California State University, Long Beach; Ed.D., University of Southern California. Emeritus, 1975.

Harold T. Miller, P.E. (1958) ..... Associate Professor, Civil Engineering
B.S., U.S. Military Academy; M.S., Pennsylvania State University; M.A., University of Chicago. Emeritus, 1971.

Jack E. Montgomery (1951) ..... Professor, Men's Physical Education
B.Ed., M.S., Ed.D., University of California, Los Angeles. Emeritus, 1973.

Wallace H. Moore (1950) ..... Professor, Education
B.A., Davidson College; M.A., Harvard University; M.Ed., Ph.D., Stanford University. Emeritus, 1969.

Elizabeth E. Nielsen (1950) ..... Professor, English
B.A., Cornell College; M.A., Boston University; Ph.D., Northwestern University. Emeritus, 1976.

Heriuf P. Nielsen, P.E. (1958) ..... Professor, Mechanical Engineering
B.S., University of Nebraska; M.M.E., Rensselaer Polytechnic Institute; Ph.D., University of Minnesota. Emeritus, 1971.

James H. Noguer (1954) ..... Professor, Spanish-Portuguese
B.A., Pepperdine University; M.A., University of Southern California; Facultad de Filosofia y Letras, Universidad de Madrid; Diploma de Doctor en Filologia Romanica. Emeritus, 1975.

Clyde E. Osborne (1957) ..... Assistant Professor, Chemistry
B.A., B.S., University of California, Los Angeles; M.S., University of California, Berkeley; M.S., University of Wisconsin. Emeritus, 1976.

Douglas Osborne (1964) ..... Professor, Anthropology
B.A., M.A., University of New Mexico; Ph.D., University of California, Berkeley. Emeritus, 1977.

Peter F. Palmer (1953) ..... Professor, Economics
B.A., University of British Columbia; M.A., Ph.D., Stanford University. Emeritus, 1972.

P. Victor Peterson (1949) ..... President
B.A., Iowa State Teachers College; M.A., Ph.D., Stanford University. Emeritus, 1959.

Milton A. Petty (1969) ..... Associate Professor, Microbiology
B.S., University of Southwestern Louisiana; M.S., Louisiana State University; Ph.D., University of Minnesota. Emeritus, 1977.

Leo T. Phearman (1950) ..... Professor, Elementary Education
B.A., Cornell College, Iowa; M.A., Ph.D., State University of Iowa. Emeritus, 1972.

William T. Pickel (1958) ..... Professor, Accounting
B.S., Highlands University; M.S., University of Colorado; LL.B., Blackstone School of Law; C.P.A. Certificate, Texas; Member, Texas State Bar. Emeritus, 1977.

Aileen W. Propes (1953) ..... Head Catalog Librarian
B.A., B.L.S., University of California; M.A., California State University, Long Beach. Emeritus, 1969.

Ernest J. Rawson ..... Professor, Industrial Education
B.A., Peru State Teachers College; M.E., Colorado Agricultural and Mechanical College. Emeritus, 1976.

C. Patricia Reid (1951) ..... Professor, Women's Physical Education
B.Ed., M.S., Ed.D., University of California, Los Angeles. Emeritus, 1974.

Harry G. Romig (1966) ..... Professor, Operations Research and Statistics
B.A., Pacific University, Forest Grove, Oregon; M.A., University of California; Ph.D., Columbia University. Emeritus, 1972.

Allee Wilford Rose (1951) ..... Professor, English
B.A., Hendrix College; M.A., George Peabody College for Teachers. Emeritus, 1974.

Stanley C. Rose (1956) ..... Associate Professor, English
B.A., Queens University; M.A., University of Miami. Emeritus, 1974.

Arlene A. Roster (1952) ..... Professor, Elementary Education
B.A., San Jose State University; M.S., Ed.D., University of Southern California. Emeritus, 1975.

Josephine B. Schultz (1951) ..... Professor, Art
B.A., Eastern Washington College of Education; M.A., Ed.D., Teachers College, Columbia University. Emeritus, 1977.

Henry R. Sehmann (1951) ..... Professor, Educational Administration
B.Ed., Illinois State Normal University; M.A., Ph.D., University of Chicago. Emeritus, 1973.

Alfred W. Sheets (1959) ..... Professor, Sociology
B.A., M.S., Ph.D., University of Southern California. Emeritus, 1975.

Donald D. Shipley (1953) ..... Professor, Biology
B.S., University of Connecticut; M.S., Virginia Polytechnic Institute; Ph.D., Cornell University. Emeritus, 1977.

Doris S. Specht (1958) ..... Head, Humanities Librarian
B.A., University of Minnesota; M.S. in L.S., University of Southern California. Emeritus, 1973.

Graham K. Spring (1966) ..... Associate Professor, German, Russian and Classics
B.A., Harvard University; M.A., Ph.D., University of Southern California. Emeritus, 1976.

Russel N. Squire (1956) ..... Professor, Music
B.A., Oberlin College; M.A., Western Reserve University; Ph.D., New York University. Emeritus, 1971.

Robert A. Steffes (1959) ..... Professor, Journalism
B.S., South Dakota State College; M.S., Syracuse University. Emeritus, 1972.

George D. Stephens (1951) ..... Professor, English
B.A., Trinity University; M.A., University of Texas; Ph.D., University of Southern California. Emeritus, 1974.

Gerald Strang (1965) ..... Professor, Music
B.A., Stanford University; Ph.D., University of Southern California. Emeritus, 1974.

Lois J. Swanson (1951) ..... Associate Dean-Student Affairs
B.A., Morningside College; M.A., Ph.D., State University of Iowa. Emeritus, 1969.

Henri Temianka (1964) ..... Professor, Music
Diploma, Curtis Institute of Music, Philadelphia. Emeritus, 1974.

Olive L. Thompson (1951) ..... Professor, Elementary Education
B.A., Iowa State University; M.A., State University of Iowa; Ed.D., University of Southern California. Emeritus, 1972.

Willard H. Van Dyke (1953) ..... Professor, Educational Administration
B.S., Oregon State College; M.A., Ed.D., University of California. Emeritus, 1964.

Robert E. Vivian, P.E. (1958) ..... Professor, Engineering; Chairman, Division of Engineering
B.A., M.A., University of Southern California; Ph.D., Columbia University; D.Sci., University of Southern California. Dean of Engineering. Emeritus, 1964.

William J. Wallace (1963) ..... Professor, Anthropology
B.A., Ph.D., University of California. Emeritus, 1970.

Dorothy L. Walsh (1956) ..... Professor, Nursing
B.S., M.A., Teachers College, Columbia University. Emeritus, 1970.

Harold W. Washburn (1965) ..... Professor, Electrical Engineering
B.S., University of California; M.S., Massachusetts Institute of Technology; Ph.D., University of California. Emeritus, 1972.

Harry S. Wilder (1953) ..... Professor, English
B.S., M.A., Ph.D., Ohio State University. Emeritus, 1968.

Edward A. Wright (1966) ..... Professor, Theatre Arts
B.A., M.A., University of Iowa. Emeritus, 1973.

James L. Young (1963) ..... Assistant Professor, Industrial Technology
B.A., University of Washington; M.A., College of Technology, Idaho. Emeritus, 1974.

Full-Time Faculty

Aall, Ingrid (1969) ..... Professor, Art
B.A., University of Oslo, Norway; B. Litt., St. Anne's College, Oxford; Ph.D., University of Chicago.

Aarons, Herbert L. (1965) ..... Associate Professor, Sociology
B.A., M.A., Pennsylvania State University.

Abbott, William P. (1968) ..... Test Officer
B.A., Seattle Pacific College; M.S., Ed.D., University of Southern California. Licensed Psychologist.

Abou-El-Haj, Rifaat Ali (1964) ..... Professor, History
B.A., Washington and Lee University; M.A., Ph.D., Princeton University.

Abrahamse, Dorothy Z. (1967) ..... Associate Professor, History
B.A., Mount Holyoke College; M.A., Ph.D., University of Michigan.

Adamany, David W. (1977) ..... Vice President for Academic Affairs
Professor, Political Science
B.A., Harvard University; M.S., University of Wisconsin; J.D., Harvard Law School; Ph.D., University of Wisconsin.

Adams, Gary B. (1972) ..... Associate Professor, Criminal Justice
B.A., College of Idaho; M.A., D.P.A., University of Southern California.

Afflack, Ruth H. (1966) ..... Associate Professor, Mathematics
B.A., M.A., University of California, Santa Barbara.

Ahlquist, Irving F. (1949) ..... Professor, History
B.S., Wheaton College; M.A., Ph.D., University of Illinois.

Ahouse, John B. (1977) ..... Archives Librarian
B.A., Columbia University; M.A., University of Texas at El Paso; M.S.L.S., University of Southern California.

Albert, Eugene (1967) ..... Associate Professor, Mathematics
B.A., M.A., Brooklyn College; Ph.D., University of Virginia.

Al-Chalabi, Kamal T., P.E. (1966) ..... Professor, Civil Engineering
B.S. in C.E., Baghdad University, Iraq; M.S., Ph.D., University of Michigan.

Alender, Charles B. (1966) ..... Professor, Biology
B.A., M.A., DePauw University; Ph.D., University of Hawaii.

Alexander, Robert L., P.E., Arch't. (1964) ..... Professor, Civil Engineering
B.Arch., Rensselaer Polytechnic Institute; M.S., Harvard University; D. Engr., University of California, Berkeley.

Alexandrov, Igor (1967) ..... Associate Professor, Physics
B.A., M.A., Ph.D., University of California, Los Angeles.

Alfieri, Frank J. (1967) ..... Professor, Biology
B.S., M.Ed., University of California, Davis; Ph.D., University of Wisconsin.

Ali, M. Shafqat (1967) ..... Associate Professor, Mathematics
B.S., Agra University, India; M.S., Muslim University, India; M.A., Ph.D., University of California, Santa Barbara.

Allen, Carl (1977) ..... Associate Professor, Accounting
B.S., Korea University, College of Commerce; M.B.A., Atlanta University; M.S., Pennsylvania State University; Ph.D., University of Illinois.

Allen, Charles A. (1957) ..... Professor, English
B.A., DePauw University; Ph.D., University of Iowa.

Allice, Ronald J. (1973) ..... Coach, Intercollegiate Athletics
B.A., M.A., California State University, Long Beach.

Amenta, Allan (1975) ..... Coordinator, Instructional Development Services
B.A., M.A., Wesleyan University.

Ames, John H. (1969) ..... Associate Professor, Elementary Education
B.A., Iowa State Teachers College; M.A., Colorado State University; Ed.D., University of California, Los Angeles.

Ames, Kenneth J. (1968) ..... Associate Professor, English
B.A., University of London; A.L.A. (London); M.A., Ph.D., University of Southern California.

Amy, Gary L. (1978) ..... Assistant Professor, Civil Engineering
B.S., M.S., San Jose State University; Ph.D., University of California, Berkeley.

Anand, Rajen S. (1970) ..... Associate Professor, Biology
B.Sc., Meerut College, India; B.V. Sc. & A.H. (D.V.M.), M.P. Veterinary College & Research Institute, India; Ph.D., University of California, Davis.

Anatol, Karl (1969) ..... Associate Professor, Speech Communication
B.A., Andreiss University, Michigan; M.A., Purdue University; Ph.D., University of Southern California.

Andersen, Rhoda M. (1974) ..... Assistant Professor, Recreation
B.A., San Jose State University; M.A., Lindenwood College.

Anderson, Burton L. (1958) ..... Professor, Geography
B.S., Southern Methodist University; M.A., University of Minnesota; Ph.D., University of Washington.

Anderson, Robert E. (1964) ..... Professor, Music
B.A., Oberlin College of Arts and Sciences; B.M.E., Oberlin Conservatory of Music; M.A., Ph.D., Ohio State University.

Anderson, Roy C. (1965) ..... Associate Professor, Economics
B.S., Lehigh University; M.A., Ph.D., Tulane University.

Andre, Shane (1967) ..... Associate Professor, Philosophy
B.S., Johns Hopkins University; M.A., Ph.D., Claremont Graduate School.

Andrews, Edna M. (1967) ..... Professor, Accounting
B.S., M.B.A., California State University, Long Beach; C.P.A. certificate, California, Kentucky.

Andrus, Donald G. (1968) ..... Associate Professor, Music
B.A., Western Washington State College; M.A., University of Washington; D.M.A., University of Illinois.

Anselmo, Carl R. (1964) ..... Professor, Microbiology
B.A., M.S., Ph.D., University of Utah.

Anwar, Mohammad Z. (1965) ..... Associate Professor, Physics
B.S., M.S., Dacca University, Pakistan; Ph.D., University of British Columbia.

Appel, Libby E. (1976) ..... Lecturer, Theatre Arts
B.A., University of Michigan; M.A., Northwestern University.

Applbaum, Ronald L. (1969) ..... Associate Professor, Speech Communication
Dean, School of Humanities
B.A., M.A., California State University, Long Beach; Ph.D., Pennsylvania State University.

Appleton, George L. (1953) ..... Professor, Physics
B.S., Carnegie Institute of Technology; Ph.D., University of Southern California.

Archer, Blair C. (1950) ..... Professor, Art
B.S., Moorhead State Teachers College; M.Ed., Ph.D., University of Minnesota.

Archuleta, Alfonso L. (1965) ..... Associate Professor, Spanish-Portuguese
B.A., University of California, Los Angeles; M.A., California State University, Los Angeles; Ph.D., University of Southern California.

Arnett, James D., P.E. (1968) ..... Professor, Electrical Engineering
B.S.E.E., M.S.E.E., Ph.D., University of Southern California.

Arnheim, Daniel D. (1959) ..... Professor, Physical Education
B.A., George Pepperdine College; M.A., California State University, Los Angeles; P.E.D., Springfield College.

Ash, William D. (1957) ..... Professor, Marketing
B.A., Idaho State College; M.B.A., Stanford University; D.B.A., University of Southern California.

Asher, Eugene L. (1959) ..... Professor, History
Executive Assistant to the President
B.A., M.A., Ph.D., University of California, Los Angeles.

Aspiz, Harold (1958) ..... Professor, English
B.A., M.A., Ph.D., University of California, Los Angeles.

Atherton, Wallace N. (1966) ..... Professor, Economics
B.A., Ph.D., University of California, Berkeley.

Austin, Charles W. (1966) ..... Professor, Mathematics
B.S., M.S., Ph.D., University of Washington.

Avcollie, David (1977) ..... Lecturer, Theatre Arts
B.F.A., University of Connecticut; M.F.A., Southern Methodist University.

Avni, Abraham A. (1964) ..... Professor, English
M.A., Hebrew University, Jerusalem; Ph.D., University of Wisconsin.

Avvocato, Rudolph I. (1970) ..... Medical Officer
M.D., St. Louis University.

Axelrad, Arthur M. (1964) ..... Professor, English
B.A., Brooklyn College; M.A., Ph.D., New York University.

Ayers, R. Dean (1967) ..... Associate Professor, Physics
B.S., M.S., Ph.D., California Institute of Technology.

Babbush, H. Edward (1958) ..... Director, Office of Career Planning and Placement
B.S., Michigan State University; M.A., California State University, Long Beach.

Bachar, John M., Jr. (1969) ..... Professor, Mathematics
B.S., M.S., Northwestern University; Ph.D., University of California, Los Angeles.

Baget, J. Julien (1974) ..... Associate Professor, Public Policy and Administration
B.A., M.P.A., University of Washington.

Ballor, Jerry (1968) ..... Associate Professor, Theatre Arts
B.A., M.A., University of Washington; Ph.D., University of Southern California.

Balne, Peter (1968) ..... Associate Professor, Chemistry
GRIC, Salford University, England; M.S., California Institute of Technology; Ph.D., University of California, Santa Barbara.

Baird, John J. (1956) ..... Professor, Biology
B.A., Iowa State Teachers College; M.S., Ph.D., State University of Iowa.

Baker, Cynthia M. (1976) ..... Assistant Professor, Physical Education
B.S., Bridgewater State College; M.A., University of Maryland.

Baker, Dan F. (1961) ..... Professor, Radio-TV
Coordinator, TV
B.A., M.A., Indiana University.

Baker, Dorothy W. (1961) ..... Assistant Professor, Home Economics
B.S., University of Maryland.

Baker, Keith G. (1977) ..... Associate Professor, Public Policy and Administration
B.A., University of North Carolina; M.P.A., Indiana University; Ph.D., University of California, Santa Barbara.

Baker, Philip C. (1969) ..... Associate Professor, Biology
B.A., Earlham College, Indiana; Ph.D., University of North Carolina.

Bakker, Theodore P., P.E. (1968) ..... Associate Professor, Civil Engineering
B.S.C.E., M.S.C.E., University of Southern California.

Band, Richard W. (1975) ..... Associate Professor, American Indian Studies
Director, American Indian Studies Program
B.A., University of British Columbia; M.A., Simon Fraser University.

Bane, Richard W. (1970) ..... Associate Professor, History
B.A., M.A., Ph.D., University of Southern California.

Barber, Daniel M. (1975) ..... Assistant Professor, Public Policy and Administration
B.E., M.A., University of Miami; Ed.D., Florida Atlantic University.

Bartenbach, Irmgard F. (1964) ..... Associate Professor, German, Russian and Classics
M.A., Ph.D., University of Southern California.

Bartlett, Kenneth T. (1959) ..... Professor, Physical Education
B.S., University of Minnesota; M.A., California State University, Los Angeles.

Bates, Donald L. (1974) ..... Associate Professor, Management
B.S., M.B.A., Indiana State University; Ph.D., University of Arkansas.

Bates, Eleanor H. (1970) ..... Associate Professor, Anthropology
B.A., California State University, Long Beach; M.A., University of Southern California; Ph.D., University of California, Los Angeles.

Battaglia, Natale A. (1974) ..... Assistant Professor, Religious Studies
B.A., M.A., La Salle College; Ph.D., Princeton University.

Bauer, Roger D. (1959) ..... Professor, Chemistry
Dean, School of Natural Sciences
B.S., Beloit College; M.S., Ph.D., Kansas State University.

Baugh, James R. (1964) ..... Associate Professor, Mathematics
B.A., M.A., University of California, Los Angeles.

Bean, Cynthia J. (1976) ..... Assistant Professor, Women's Physical Education
B.S., Bridgewater State College; M.A., University of Maryland.

Beattie, Randall C. (1972) ..... Associate Professor, Communicative Disorders
B.S., Northern Illinois University; M.S., University of Illinois; Ph.D., University of Southern California.

Beaumont, Marion S. (1967) ..... Associate Professor, Economics
B.S., Ohio State University; M.A., Duke University; Ph.D., Claremont Graduate School.

Beck, Louis L. (1970) ..... Associate Professor, Elementary Education
B.A., M.A., University of Redlands; Ph.D., U.S. International University.

Becker, Charles E. (1956) ..... Professor, Music
B.Mus., M.A., Ph.D., State University of Iowa.

Becker, Edwin N. (1955) ..... Professor, Chemistry
B.S., Iowa State University; Ph.D., University of Wisconsin.

Becker, Harold K. (1963) ..... Professor, Criminal Justice
B.A., M.S., University of Southern California; D. Crim., University of California, Berkeley.

Beckwith, Howard B. (1969) ..... Associate Professor, Mathematics
B.A., University of California, Berkeley; Ph.D., University of California, San Diego.

Beecher, Earl S. (1961) ..... Professor, Finance
B.A., University of Utah; M.B.A., Ph.D., University of California, Los Angeles.

Beegle, Donald A. (1963) ..... Professor, Health Science
B.S., M.S., University of Oregon; M.P.H., University of California, Berkeley.

Beekman, Bruce E. (1958) ..... Professor, Biology
B.A., San Diego State University; M.A., Ph.D., Indiana University.

Bell, A. Robert (1969) ..... Associate Professor, English
B.A., M.A., University of Miami; Ph.D., University of Maryland.

Belt, Virginia M. (1963) ..... Professor, Finance
B.S., Southern Illinois University; M.S., Ph.D., University of Illinois.

Berk, Stephen E. (1970) ..... Associate Professor, History
B.A., Lehigh University; M.A., University of Massachusetts; Ph.D., University of Iowa.

Berkshire, Stewart (1974) ..... Associate Professor, Accounting
B.S., United States Naval Academy; M.B.A., San Jose State University; Ph.D., University of Santa Clara.

Bernstein, David A. (1967) ..... Professor, History
B.A., Muhlenberg College, Allentown, Pennsylvania; M.A., Ph.D., Rutgers University.

Bernstein-Tarrow, Norma T. (1968) ..... Professor, Elementary Education
B.A., Brooklyn College; M.S., Queens College; Ph.D., New York University.

Berry, Arnold J. (1973) ..... Associate Professor, Chemistry
B.S., Pennsylvania State University; M.S., Michigan State University; Ph.D., Ohio State University.

Berthoif, Constance B. (1975) ..... Lecturer, Nursing
B.S., M.S., University of California, Los Angeles.

Betar, George V. (1963) ..... Professor, English
B.A., State University of New York, College at Albany; M.A., Ph.D., University of Southern California.

Biedebach, Mark C. (1967) ..... Associate Professor, Biology
B.E., M.S., University of Southern California; Ph.D., University of California, Los Angeles.

Bigelow, Thomas W. (1971) ..... Associate Professor, Physical Education
B.S., Wisconsin State University; M.Ed., Ed.D., University of Georgia.

Binder, Virginia L. (1967) ..... Associate Professor, Psychology
B.A., William Jewell College, Liberty, Missouri; Ph.D., Indiana University.

Black, Albert G. (1962) ..... Associate Professor, English
B.A., M.A., University of Michigan.

Black, Paul V. (1969) ..... Associate Professor, History
B.S., M.S., University of Southern Mississippi; Ph.D., University of Wisconsin.

Black, Stuart E. (1962) ..... Associate Professor, Mathematics
B.S., Harvey Mudd College, Claremont; M.A., University of California, Los Angeles.

Blackman, Betty J. (1967) ..... Assistant University Librarian, Technical Services
B.S.Ed., Ohio State University; M.L.S., Western Michigan University.

Blaylock, Enid V. (1966) ..... Professor, Educational Psychology
B.S., Loma Linda University; M.S., University of California, Los Angeles; Ph.D., University of Southern California.

Bliss, James H. (1964) ..... Professor, Journalism
B.A., University of California, Los Angeles; M.A., University of Missouri.

Blumberg, Stephen (1975) ..... Assistant Professor, Public Policy and Administration
B.A., Ohio State University; M.A., Roosevelt University; M.P.A., Ph.D., University of Southern California.

Bok, Frank J. (1956) ..... Professor, Physical Therapy
B.S., M.A., Ph.D., Certificate in Physical Therapy, State University of Iowa; Registered Physical Therapist, California.

Bonazza, Blaze O. (1966) ..... Professor, English
B.A., Cornell University; M.A., California State University, Los Angeles; Ph.D., University of Southern California.

Bonis, William D. (1963) ..... Professor, Philosophy
B.D., Theological Academy, Sarospatak, Hungary; M.Th., Presbyterian Theological Seminary, Pittsburgh; Ph.D., University of Texas.

Borders, David C. (1962) ..... Professor, Art
B.F.A., Ohio State University; M.F.A., University of Washington.

Boring, Warren J. (1956) ..... Professor, Physical Education
B.S., Kansas State College; M.S., University of Colorado; H.S.D., Indiana University.

Borowiec, Edward J. (1969) ..... Associate Professor, English
Ph.B., University of Detroit; M.A., Ph.D., University of Southern California.

Boston, Archie (1977) ..... Lecturer, Art
B.F.A., Chouinard Art Institute; M.A., University of Southern California.

Bott, Paul A. (1976) ..... Assistant Professor, Vocational Education
B.A., California State University, Los Angeles; M.A., Ed.D., University of California, Los Angeles.

Bourret, James A. (1968) ..... Professor, Biology
B.S., M.S., University of Wyoming; Ph.D., University of California, Berkeley.

Boutelle, Donna L. (1967) ..... Professor, History
B.A., M.A., Ph.D., University of California, Berkeley.

Bowman, Frank (1959) ..... Associate Dean, Housing and Health Services
B.S., Morris Harvey College; M.A., California State University, Long Beach.

Bradley, Jack I. (1952) ..... Professor, Psychology
B.A., California State University, Los Angeles; M.A., Occidental College; Ph.D., Claremont Graduate School.

Brady, Margaret A. (1976) ..... Lecturer, Nursing
B.S.N., Marquette University; M.S., University of Colorado.

Brandstatt, Gerald J. (1966) ..... Associate Professor, Industrial Education
B.A., M.A., California State University, Chico; Ed.D., University of California, Los Angeles.

Brandt, Linda S. (1977) ..... Assistant Professor, Public Policy and Administration
B.A., Queens College, City University of New York; Ph.D., University of Colorado.

Branson, Marvin W. (1975) ..... Lecturer, Music
B.M., University of Southern California; M.A., California State University, Long Beach.

Brasher, Robert E. (1956) ..... Serials Catalog Librarian
B.A., Oklahoma City University; M.A. in L.S., University of Denver.

Brault, Gayle L. (1976) ..... Lecturer, Nursing
B.S., M.S., California State University, Long Beach.

Brekke, Alice M. (1970) ..... Associate Professor, English
B.S., Maryville State College; M.S., North Dakota State University; Ph.D., University of Minnesota.

Brent, Paul L. (1959) ..... Professor, Instructional Media
B.S., Central State College; M.Ed., Ed.D., University of Oklahoma.

Brice, Robert C. (1968) ..... Professor, Industrial Technology
B.A., M.A., California State University, Long Beach.

Briggs, Nancy E. (1970) ..... Associate Professor, Speech Communication
B.A., Augustana College, South Dakota; M.A., Ph.D., University of Southern California.

Brisker, Estelle R. (1967) ..... Professor, Art
B.A., Hunter College; M.A., University of California, Los Angeles.

Britton, Alexander L. (1965) ..... Professor, Educational Psychology
B.A., University of California, Los Angeles; M.A., California State University, Long Beach; Ed.D., University of Southern California.

Brooks, Charles B. (1957) ..... Professor, English
B.A., M.A., Ph.D., University of California, Berkeley.

Brophy, Robert J. (1968) ..... Professor, English
B.A., Gonzaga University; M.A., Loyola University; Ph.D., University of North Carolina.

Broughton, Jeffrey L. (1976) ..... Assistant Professor, Religious Studies
B.A., M.A., Ph.D., Columbia University.

Brown, Claudia (1977) ..... Lecturer, Art
B.A., M.A., M.Phil., University of Kansas.

Buchanan, John G. (1968) ..... Associate Professor, History
B.A., M.A., Roosevelt University; Ph.D., Duke University.

Buchner, Reinhard K. (1963) ..... Professor, Physics
Vordiplom, Gutenberg University, Mainz, Germany; Diplom, Doctor, Ing., Technical Hochschule, Aachen, Germany.

Buck, Steven M. (1961) ..... Professor, Speech Communication
B.A., M.A., Washington State University; Ph.D., Purdue University.

Buckner, William E. (1970) ..... Professor, Home Economics
B.S., J.D., University of California, Los Angeles.

Buggs, Charles W. (1973) ..... Lecturer, Microbiology
B.A., Morehouse College; M.S., Ph.D., University of Minnesota.

Bullough, Bonnie (1976) ..... Professor, Nursing
B.S., Youngstown University; M.S., M.A., Ph.D., University of California, Los Angeles.

Burhans, Linda K. (1973) ..... Assistant Professor, Health Science
B.A., California State University, Long Beach; M.S.P.H., Dr.P.H., University of California, Los Angeles.

Burke, Albie D. (1967) ..... Professor, History
B.M., American Conservatory of Music; B.A., M.A., Ph.D., University of Chicago.

Burke, Kay (1977) ..... Lecturer, Nursing
B.S., M.N., University of Florida.

Burras, Darrell V. (1957) ..... Professor, Quantitative Systems
B.S., Central Michigan College; M.S., Ph.D., University of Michigan.

Bush, Roland E. (1969) ..... Associate Professor, Comparative Literature
B.A., California State University, Long Beach; M.A., University of Southern California.

Butcher, Benjamin C. (1969) ..... Professor, Marketing
B.A., M.A., University of Denver; Ph.D., University of Illinois.

Butler, Dennis G. (1966) ..... Associate Director of Academic Planning
B.S., M.B.A., California State University, Long Beach.

Cahn, Norman R. (1967) ..... Professor, Elementary Education
B.S., University of California, Los Angeles; M.A., California State University, Long Beach; Ed.D., University of Southern California.

Cain, Earl R. (1959) ..... Professor, Speech Communication
B.A., University of South Dakota; M.A., Ph.D., Northwestern University.

Cain, Guy H., Jr. (1960) ..... Associate Professor, Electrical Engineering
B.S. in E.E., University of Wisconsin; M.Eng., University of California, Los Angeles.

Callison, George L. (1969) ..... Professor, Biology
B.S., Kansas State University; M.A., Ph.D., University of Kansas.

Caloca, David A. (1973) ..... Assistant Professor, Psychology
B.A., St. Francis College, Fort Wayne, Indiana; M.A., University of California, Los Angeles.

Camburn, Herbert L. (1960) ..... Professor, Theatre Arts
B.A., M.A., Michigan State University.

Campbell, Charles E. (1966) ..... Associate Professor, Health Science
B.A., M.A., California State University, Los Angeles; Ed.D., University of California, Los Angeles.

Campbell, Daniel A. (1962) ..... Associate Professor, Physical Education
B.A., University of California, Santa Barbara; M.A., California State University, Long Beach.

Campbell, Janet (1965) ..... Humanities Catalog Librarian
B.A., California State University, Long Beach; M.S. in L.S., University of California, Los Angeles.

Cannon, Harold L. (1968) ..... Assistant Professor, Spanish-Portuguese
B.A., B.S., M.A., Ph.D., University of Minnesota.

Cannon, James D. (1977) ..... Lecturer, Industrial Technology
B.S., California State University, Long Beach; M.S., Pepperdine University.

Cantey, Richard E. (1972) ..... Assistant Test Officer
B.S., Louisiana State University; M.A., California State University, Los Angeles; Ph.D., University of Southern California. Marriage, Family Certificate.

Cárdenas, Daniel N. (1970) ..... Professor, Spanish-Portuguese
B.A., Park College, Missouri; M.A., Ph.D., Columbia University.

Carissimo, Joel W. (1969) ..... Associate Professor, Electrical Engineering
B.S., Case Institute of Technology; M.S., E.E., University of Southern California.

Carlberg, David (1966) ..... Professor, Microbiology
B.A., Ph.D., University of California, Los Angeles.

Carlson, Earl R. (1961) ..... Professor, Psychology
B.S., University of Washington; Ph.D., University of Michigan.

Carr, H. L. (Peter) (1959) ..... Professor, Comparative Literature
B.A., University of Southern California; M.A., Johns Hopkins University; Ph.D., University of Southern California.

Cash, Robert W. (1970) ..... Associate Professor, Educational Psychology
B.A., Denison University; M.A., Iowa State University; Ed.D., University of Arizona.

Casserly, George B. (1977) ..... Medical Officer
B.A., Boston College; M.D., Tufts University.

Castleberry, Ottis L. (1956) ..... Professor, Speech Communication
B.A., Pennsylvania State College; M.A., University of Southern California; Ph.D., Pennsylvania State University.

Cebeci, Tuncer (1977) ..... Professor, Mechanical Engineering
B.S., Robert College; M.S., Duke University; Ph.D., North Carolina State University.

Cereseto, Shirley (1967) ..... Associate Professor, Sociology
B.A., California State University, Long Beach; M.A., Ph.D., University of Southern California.

Cerillo, Augustus, Jr. (1967) ..... Professor, History
B.S., Evangel College, Springfield, Missouri; M.A., University of Omaha; Ph.D., Northwestern University.

Chambers, Richard L. (1977) ..... Lecturer, Chemistry
B.S., New Mexico State University; Ph.D., University of California, Berkeley.

Chambers, Teresa B. (1969) ..... Head Science Librarian
B.A., Montana State University; M.L.S., University of Southern California.

Chan, Julie M. (1975) ..... Assistant Professor, Elementary Education
B.A., University of California, Los Angeles; M.S., University of Southern California; Ed.D., University of Colorado.

Chan, Kwan M. (1969) ..... Professor, Geological Sciences
B.Sc., University of Hong Kong; Ph.D., University of Liverpool, England.

Chao, L. Lincoln (1964) ..... Professor, Quantitative Systems
B.L., National Hunan University, China; M.A., Ph.D., University of Minnesota.

Chavez, Marcela G. (1972) ..... Project Director, Student Special Services
B.A., California State University, Los Angeles.

Chawla, Sudershan (1962) ..... Professor, Political Science
B.S., Delhi University, India; M.A., Ph.D., Ohio State University.

Chelapati, Chunduri V., P.E. (1965) ..... Professor, Civil Engineering
B.S., College of Engineering, Kakinada, India; M.S., Ph.D., University of Illinois.

Chen, Chia-Hwa (1964) ..... Professor, Physics
B.S., National Taiwan University; M.S., National Tsing Hua University; Ph.D., State University of New York, Buffalo, New York.

Chen, Keh-Hsun (1977) ..... Lecturer, Mathematics
B.S., Cheng-Kung University, Taiwan; M.S., Tsing-Hua University, Taiwan; Ph.D., Duke University.

Child, Angela (1977) ..... Lecturer, Nursing
B.S., Oklahoma Baptist University; M.S., University of California, San Francisco.

Cho, Paek J. (1977) ..... Associate Professor, Accounting
B.S., Korea University, College of Commerce; M.B.A., Atlanta University; M.S., Pennsylvania State University; Ph.D., University of Illinois.

Chow, Richard H. (1958) ..... Professor, Physics
B.A., M.A., University of British Columbia; Ph.D., University of California, Los Angeles.

Christ, Francis L. (1972) ..... Counselor
B.A., Lady Cliffe College, New York; M.A., Loyola University.

Chu, Hsiao-Ling, P.E. (1972) ..... Associate Professor, Civil Engineering
B.S.C.E., M.S., National Cheng-Kung University, Taiwan; Ph.D., North Carolina State University.

Church, David C. (1968) ..... Associate Professor, Industrial Education
B. of Architecture, University of Southern California; M.A., California State University, Long Beach.

Clark, Cheryl (1969) ..... Associate Professor, Philosophy
B.A., M.A., University of California, Los Angeles.

Cleveland, Leah M. (1973) ..... Assistant Professor, Nursing
B.S., Loretto Heights College; M.S., Loma Linda University.

Click, Robert E. (1962) ..... Professor, Art
B.A., University of California, Los Angeles; M.A., California State University, Long Beach.

Clover, Robert C. (1975) ..... Assistant Professor, Biology
B.A., University of California, Berkeley; M.A., California State University, Chico; Ph.D., Oregon State University.

Clyde, Robert B. (1967) ..... Counselor
B.A., University of California, Berkeley; M.A., Claremont Graduate School; Ed.D., University of Southern California. Licensed Psychologist.

Cobin, Joan (1973) ..... Professor, Nursing
B.S., California State University, Los Angeles; M.S., University of California, Los Angeles; Ph.D., University of Southern California.

Cockrum, James E. (1955) ..... Professor, Instructional Media
B.Ed., Southern Illinois University; M.A., Teachers College, Columbia University; Ed.D., Indiana University.

Cohen, Floyd A. (1965) ..... Professor, Mathematics
B.A., M.A., Ph.D., University of California, Los Angeles.

Cohen, Ira S. (1959) ..... Professor, Political Science
B.A., University of Arizona; M.A., Ph.D., University of Chicago.

Cohlberg, Jeffrey A. (1975) ..... Assistant Professor, Chemistry
B.A., Cornell University; Ph.D., University of California, Berkeley.

Cole, Charles L. (1967) ..... Professor, Economics
B.A., University of Southern California; M.B.A., Stanford University; Ph.D., University of Southern California.

Collins, Charles T. (1968) ..... Professor, Biology
B.A., Amherst College; M.S., University of Michigan; Ph.D., University of Florida.

Collins, Keith E. (1969) ..... Assistant Professor, History
B.A., M.S., Indiana University; Ph.D., University of California, San Diego.

Colman, Keith R. (1970) ..... Associate Professor, Psychology
B.A., California State University, Long Beach; M.A., Ph.D., University of California, Los Angeles.

Comer, James L. (1971) ..... Professor, Physical Education
B.A., B.S., Kansas State College; M.S., Central Missouri State College; E.D.S., New Mexico State University; Ed.D., University of Utah.

Connor, Michael E. (1971) ..... Associate Professor, Psychology
B.A., California Western University; M.A., California State University, Long Beach; Ph.D., University of Hawaii.

Conrey, Bert L. (1955) ..... Professor, Geological Sciences
B.S., M.S., University of California, Berkeley; Ph.D., University of Southern California.

Conroy, Jean L. (1961) ..... Associate Professor, Mathematics
B.A., M.A., University of Maine.

Cook, Raymond (1966) ..... Professor, Recreation
B.S., Southwest Missouri State College; M.A., University of Illinois; Ed.D., University of California, Los Angeles.

Cooper, Gene R. (1969) ..... Professor, Art
B.A., M.A., University of Hawaii.

Cooper, June M. (1966) ..... Professor, Communicative Disorders
Associate Vice President for Academic Affairs—Academic Personnel
B.A., Queens College, Flushing, New York; M.A., Brooklyn College; Ph.D., New York University.

Cornwell, Max T. (1968) ..... Professor, Accounting
B.S., M.B.A., University of Utah; D.B.A., University of Southern California.

Cortese, Peter A. (1973) ..... Associate Professor, Health Science
B.S., University of Minnesota; M.P.H., Dr.P.H., University of California, Los Angeles.

Cotta, Edmund A. (1958) ..... Professor, Marketing
B.B.A., University of Toledo; M.B.A., University of Pennsylvania.

Councilman, Samuel G. (1968) ..... Associate Professor, Mathematics
B.A., M.A., Ph.D., University of California, Los Angeles.

Cox, Barbara C. (1977) ..... Lecturer, Theatre Arts
B.A., State University of New York, Albany; M.F.A., Carnegie-Mellon University.

Cox, Hiden T. (1963) ..... Professor, Biology
B.S., Furman University, Greenville, South Carolina; M.A., Ph.D., University of North Carolina.

Cox, Victor (1977) ..... Lecturer, Journalism
B.A., University of California, Santa Barbara; M.A., University of California, Los Angeles.

Crafts, James S. (1957) ..... Professor, Art
B.A., Oberlin College; M.A., Teachers College, Columbia University; M.A., Ph.D., Yale University.

Crane, George F. (1958) ..... Professor, English
B.A., Stanford University; M.A., University of California, Los Angeles; Ph.D., University of California, Berkeley.

Craven, Duane C. (1967) ..... Associate Professor, Speech Communication
B.A., M.A., Pepperdine College; Ph.D., University of Southern California.

Crawford, Walter B. (1963) ..... Professor, English
B.A., Union College, Lincoln, Nebraska; M.A., Columbia University; Ph.D., University of California, Los Angeles.

Crayton, CeEtta F. (1972) ..... Assistant Professor, Recreation
B.A., Lewis and Clark College; M.S., California State University, Los Angeles.

Creamer, Lyle R. (1962) ..... Professor, Psychology
B.S., M.S., Kansas State University; Ph.D., University of Illinois.

Crockett, Barbara A. (1970) ..... Associate Professor, Music
B.A., M.A., Brigham Young University; D.M.A., University of Illinois.

Cross, Craig T. (1975) ..... Assistant Athletic Director
B.A., Stanford University.

Crossan, Robert D. (1955) ..... Professor, Educational Psychology
B.A., M.A., Whittier College; Ed.D., University of Southern California.

Crowe, Walter C. (1952) ..... Professor, Physical Education
B.S., M.S., University of California, Los Angeles; Ed.D., University of Southern California.

Crowther, Simeon J. (1968) ..... Professor, Economics
Dean, School of Social and Behavioral Sciences
B.S., University of Oregon; Ph.D., University of Pennsylvania.

Ctvrtlik, Josef T. (1963) ..... Associate Professor, German, Russian and Classics
M.A., University of Southern California.

Culotta, Wendy A. (1973) ..... Assistant Science Librarian
B.A., University of California, San Diego; M.L.S., University of California, Los Angeles.

Cummings, Frank E. (1969) ..... Associate Professor, Art
B.A., California State University, Long Beach; M.A., California State University, Fullerton.

Cummins, Francis G. (1976) ..... Medical Officer
B.Sc., M.D., University of Alberta, Canada.

Cunningham, Benjamin H. (1968) ..... Professor, Journalism
B.A., M.A., University of Southern California.

Curtis, Larry G. (1969) ..... Professor, Music
B.M., East Texas State University; M.A., Adams State College, Alamosa, Colorado.

Dailey, Murray D. (1966) ..... Professor, Biology
Director, Southern California Ocean Studies Consortium
B.S., University of Nevada; M.S., American University of Beirut, Lebanon; Ph.D., Colorado State University.

Dallin, Leon (1955) ..... Professor, Music
B.Mus., M.Mus., University of Rochester; Ph.D., University of Southern California.

Dame, Donald L. (1965) ..... Associate Professor, Art
B.A., M.A., California State University, Long Beach.

Daniel, Gerald R. (1968) ..... Professor, Music
B.M., M.M., Illinois Wesleyan University; Ph.D., State University of Iowa.

Dank, Barry M. (1968) ..... Associate Professor, Sociology
B.A., Hofstra University; M.A., Ph.D., University of Wisconsin.

Danson, Carl M. (1965) ..... Associate Professor, Psychology
B.A., M.A., Ph.D., Ohio State University.

Darbee, Richard H. (1954) ..... Professor, English
B.A., Alma Coltege; M.A., University of Michigan; Ph.D., University of New Mexico.

Dash, Honore E. (1967) ..... Assistant Professor, Biology
B.S., University of Illinois; M.A., California State University, Long Beach.

Davis, Boyd A. (1951) ..... Director of Academic Planning; Professor, Educational Psychology
B.A., John Fletcher College; M.S., Ph.D., Iowa State University.

Day, James E. (1955) ..... Professor, English
B.A., Iowa State Teachers College; M.A., Ph.D., State University of Iowa.

Dean, C. Thomas (1952) ..... Professor, Industrial Education
Dean, School of Applied Arts and Sciences
B.A., Peru State Teachers College; M.S., Ph.D., Iowa State University.

Deatherage, Dorothy (1955) ..... Professor, Physical Education
B.A., M.A., Stanford University, Ed.D., University of Southern California.

De Boer, Kee K. (1977) ..... Head, Social Sciences Librarian
B.A., Augustana College; M.A., M.S.L.S., University of Colorado.

Debysingh, Molly (1972) ..... Associate Professor, Geography
M.A., St. Andrew's College, Scotland; Ph.D., Syracuse University.

DeHardt, Doris C. (1961) ..... Professor, Psychology
B.A., M.A., University of Missouri; Ph.D., Michigan State University.

DeHeras, John (1967) ..... Associate Professor, Art
B.A., M.A., University of California, Los Angeles.

Deitch, Kathryn (1977) ..... Lecturer, Nursing
B.S., University of Maryland; M.S., Texas Woman's University.

DeLong-Tonelli, Beverly J. (1966) ..... Professor, Spanish-Portuguese
B.J., University of Missouri; M.A., Ph.D., University of Iowa.

Delorme, Robert L. (1966) ..... Professor, Political Science
B.A., St. John's University, Collegeville, Minnesota; M.A., Ph.D., University of Minnesota.

Demos, George D. (1962) ..... Professor, Educational Psychology
B.S., Northern Illinois State College; M.S., University of Illinois; Ph.D., University of Southern California. Licensed Psychologist.

Dempster, Donna I. (1970) ..... Associate Professor, Home Economics
B.A., California State University, Long Beach; M.S., Ohio University.

Denham, Carolyn H. (1971) ..... Associate Professor, Educational Psychology
B.A., University of Texas; M.Ed., Ph.D., Boston College.

Dennis, John G. (1962) ..... Professor, Geological Sciences
B.Sc., Imperial College, London, England; M.A., Ph.D., Columbia University, New York.

DeSoto, Simon (1969) ..... Professor, Mechanical Engineering
B.M.E., City College of New York; M.M.E., Syracuse University; Ph.D., University of California, Los Angeles.

DeVoe, Robert J. (1968) ..... Associate Professor, Management
B.E., M.E., University of Southern California; M.B.A., University of California, Los Angeles.

Devore, Jerald A. (1969) ..... Associate Professor, Chemistry
B.A., California State University, Chico; M.S., San Diego State University; Ph.D., University of California, San Diego.

Dilbeck, Harold R. (1969) ..... Professor, Finance
B.S., California State University, Fresno; M.B.A., Ph.D., University of California, Los Angeles.

Dillingham, Orval L. (1955) ..... Professor, Art
M.A., M.F.A., University of Minnesota.

Dinerstein, Grace E. (1967) ..... Professor, Home Economics
B.A., M.A., M.F.A., University of California, Los Angeles.

Dinielli, Gene L. (1968) ..... Associate Professor, English
B.A., M.A., University of Connecticut.

Dixon, Keith A. (1958) ..... Professor, Anthropology
B.A., M.A., University of Arizona; Ph.D., University of California, Los Angeles.

Donahue, Francis J. (1960) ..... Professor, Spanish-Portuguese
B.A., University of Omaha; M.A., University of Wisconsin; Ph.D., University of Southern California.

Donlan, Robert E. (1975) ..... Associate Athletic Director
B.A., M.Ed., University of Nevada; Ph.D., University of Utah.

Dorn, Carl H. (1968) ..... Associate Professor, Mathematics
B.A., University of California, Berkeley; Ph.D., University of California, Los Angeles.

Dorsey, John F. (1961) ..... Head Humanities Librarian
B.A., Colorado State College of Education; M.A. in L.S., Denver University.

Doty, Wanda (1974) ..... Counselor
B.S., Northeastern State College; M.A., Wichita State University.

Doud, William R. (1971) ..... Professor, Quantitative Systems
B.A., University of Northern Iowa; M.A., California State University, Long Beach; Ph.D., University of Southern California.

Dowell, David A. (1977) ..... Lecturer, Psychology
B.S., Middle Tennessee State University; M.A., University of Tennessee.

Dubin, Max (1974) ..... Medical Director, Student Health Services
B.S., University of Massachusetts; M.A., M.D., University of Vermont.

DuBois, Henry J., Jr. (1967) ..... Head, Fine Arts Librarian
B.A., California State University, Long Beach; M.L.S., University of California, Berkeley.

Duckwall, Ralph W. (1964) ..... Professor, Theatre Arts
B.A., M.A., Indiana University.

Dukes, Stacy E. (1964) ..... Associate Professor, Art
B.A., University of Washington; M.A., University of California, Los Angeles.

Dunne, Charles P. (1976) ..... Assistant Professor, Chemistry
B.A., University of California, Riverside; Ph.D. Brandeis University.

DuPont, Elizabeth O. (1965) ..... Associate Professor, Physical Education
B.A, Florida State University; M.A., Texas Woman's University.

Duren, Donald (1972) ..... Associate Director, EOP
B.A., Fisk University.

Dvorak, Eldon J. (1961) ..... Professor, Economics
B.S., South Dakota State University; Ph.D., University of Washington.

Dyer, James L. (1966) ..... Professor, Mechanical Engineering
B.S., M.S., Ph.D., University of California, Los Angeles.

Eckhardt, Carol F. (1967) ..... Assistant Professor, Anthropology
B.A., M.A., University of California, Los Angeles.

Edelman, Walter E., Jr., P.E. (1967) ..... Professor, Mechanical Engineering
B.M.E., M.S. in M.E., University of Minnesota; Ph.D., Oregon State University.

Edmondson, Betty V. (1964) ..... Associate Professor, Physical Education
B.S., University of Nevada; M.A., San Jose State University.

Eggers, Robert F. (1964) ..... Associate Professor, Theatre Arts
B.A., Linfield College, McMinnville, Oregon; M.A., University of Oregon.

Ehrreich, Albert L. (1957) ..... Professor, Geological Sciences
B.A., M.A., Ph.D., University of California, Los Angeles.

Eisenman, Robert H. (1973) ..... Associate Professor, Religious Studies
B.A., Cornell University; M.A., New York University; Ph.D., Columbia University.

Ellason, Lowell J. (1965) ..... Associate Professor, Physics
B.S., Stanford University; Ph.D., University of Utah.

Ericksen, Sheldon D. (1955) ..... Professor, Geography
B.A., M.A., University of Utah; Ph.D., University of Chicago.

Erler, Raymond L. (1976) ..... Lecturer, Finance
B.S., Bradley University; M.A., M.B.A., Ph.D., University of California, Los Angeles.

Eshett, Ali, P.E. (1966) ..... Professor, Civil Engineering
B.S., Technion, I.I.T., Haifa, Israel; M.S., Ph.D., Colorado State University.

Evans, Edward N. (1970) ..... Associate Professor, Electrical Engineering
B.S., University of California, Berkeley; M.S., E.E., California Institute of Technology; Ph.D., University of California, Irvine.

Ewing-Chow, Frank D. (1975) ..... Associate Professor, Accounting
B.A., Loma Linda University; M.B.A., University of Hawaii; D.B.A., University of Southern California.

Eylar, Harry D. (1963) ..... Associate Professor, Mathematics
B.A., Montana State University; M.S., University of Washington.

Farber, Stuart L. (1960) ..... Associate Professor, Health Science
Associate Dean for Student Affairs
B.A., University of California, Los Angeles; M.S., California State University, Long Beach; Ed.D., University of California, Los Angeles.

Farr, Wilbur J. (1955) ..... Professor, Industrial Education
B.A., Washington State College; M.A., Colorado State College; Ed.D., University of Missouri.

Farrell, Michael J. (1969) ..... Assistant Professor, Economics
B.A., Pomona College; M.A., Ph.D., Stanford University.

Farrell, Raymond R. (1966) ..... Professor, Finance
B.A., University of California, Los Angeles; J.D., Yale University.

Fatt, Milton J. (1963) ..... Professor, Mathematics
B.A., M.A., University of California, Los Angeles; Doktor der Mathematik, Swiss Federal Institute of Technology.

Fenenga, Franklin (1965) ..... Professor, Anthropology
B.A., University of California, Berkeley.

Ferguson, Lloyd N. (1973) ..... Assistant Professor, Electrical Engineering
B.S., California State University, Los Angeles; M.S., Ph.D., University of California, Los Angeles.

Ferreira, Armando T. (1957) ..... Professor, Art
B.A., M.A., University of California, Los Angeles.

Ferrell, Donald (1977) ..... Associate Professor, Journalism
B.A., San Diego State University; M.A., University of Missouri.

Fiebert, Martin S. (1965) ..... Associate Professor, Psychology
B.S., Queens College, Flushing, New York; Ph.D., University of Rochester.

Fiebiger, Josephine B. (1966) ..... Professor, Psychology
B.A., Pennsylvania State University; M.A., California State University, Los Angeles; Ph.D., University of Southern California.

Fine, David M. (1968) ..... Associate Professor, English
B.A., M.A., University of California, Los Angeles; M.A., California State University, Los Angeles; Ph.D., University of California, Los Angeles.

Finney, Robert G. (1977) ..... Professor, Radio-TV
B.A., Marietta College; M.A., Ph.D., Ohio State University.

Finot, Patricia (1977) ..... Associate Professor, Dance
B.A., Occidental College; M.A., University of Southern California.

Flores, Filemon C. (1972) ..... Associate Professor, Management
B.S., University of the Philippines; M.B.A., Ph.D., University of California, Los Angeles.

Fogg, William E. (1956) ..... Professor, Educational Psychology
B.A., University of California, Berkeley; M.S., Ed.D., University of Southern California.

Ford, Gerald L. (1969) ..... Associate Professor, Management
B.A., San Jose State University; M.B.A., D.B.A., University of Southern California.

Ford, JoAnn (1973) ..... Assistant Professor, Nursing
B.S., M.S., University of California, San Francisco.

Fornia, Dorothy L. (1956) ..... Professor, Physical Education
B.Ed., M.A., Ohio State University; Ed.D., University of Southern California.

Forst, Florence H. (1964) ..... Professor, Educational Psychology
B.A., Washington State University; M.A., Illinois Institute of Technology; Ph.D., University of Pittsburgh.

Forsythe, Lynn M. (1975) ..... Lecturer, Finance
B.A., Pennsylvania State University; J.D., University of Pittsburgh.

Foster, L. Sheila (1967) ..... Associate Professor, Mathematics
B.A., Ohio Wesleyan University; M.A., Ph.D., University of Southern California.

Fradkin, Howard E. (1967) ..... Professor, Sociology
B.A., University of California, Berkeley; M.S., University of Wisconsin; Ph.D., Ohio State University.

Franklin, Barbara J. (1967) ..... Associate Professor, Physical Education
B.S., Memphis State University; M.S., University of Washington.

Fredrickson, John E. (1955) ..... Professor, Physics
B.S., University of California, Berkeley; M.S., Ph.D., University of Southern California.

Fried, Elliot (1970) ..... Associate Professor, English
B.A., M.A., California State University, Long Beach; M.F.A., University of California, Irvine.

Fritts, Paul J. (1965) ..... Professor, Geological Sciences
Geological Engineer, Colorado School of Mines; Ph.D., University of Colorado.

Froyd, Robert K. (1958) ..... Associate Professor, Mathematics
B.A., Occidental College; M.A., University of California, Berkeley.

Frye, Robert W. (1967) ..... Professor, Marketing
B.S., M.B.A., Washington University; D.B.A., Indiana University.

Fung, Henry C., Jr. (1966) ..... Professor, Microbiology
B.A., University of California, Berkeley; M.T., University of California Medical School at San Francisco; M.A., San Francisco State University; Ph.D., Washington State University.

Furth, Charlotte D. (1966) ..... Professor, History
B.A., University of North Carolina; A.B., University of Aix-Marseille, France; Ph.D., Stanford University.

Gabrielson, Alice A. (1961) ..... Social Science Catalog Librarian
B.A., California State University, Long Beach; M.S. in L.S., University of Southern California.

Gallagher, Phillip J. (1968) ..... Counselor
B.A., M.A., San Diego State University; Ph.D., University of Denver. Licensed Psychologist.

Gallagher, Vincent P. (1976) ..... Lecturer, Mathematics
B.A., Boston College; M.S., Ph.D., University of Notre Dame.

Galt, Charles P. (1973) ..... Assistant Professor, Biology
B.A., University of California, Santa Barbara; M.S., Ph.D., University of Washington.

Garrott, Roy C. (1969) ..... Assistant Professor, English
B.A., M.A., Western Kentucky University.

Garvey, Daniel E. (1976) ..... Associate Professor, Journalism
B.A., Harvard College; M.A., Ph.D., Stanford University.

Gayer, Dixon L. (1959) ..... Professor, Journalism
B.A., University of California, Berkeley; M.A., California State University, Long Beach.

Gazdik, Olga S. (1968) ..... Assistant Order Librarian
B.S., Miami University; M.S., Florida State University.

Gendler, Alan M. (1974) ..... Assistant Professor, Mathematics
B.A., M.A., University of Minnesota; Ph.D., University of Illinois.

Genevro, George W. (1957) ..... Professor, Industrial Education
B.A., San Jose State University; M.S., State College of Washington; Ed.D., University of California, Los Angeles.

George, Barbara C. (1961) ..... Professor, Finance
B.A., Bennett College, Greensboro, North Carolina; J.D., State University of Iowa. Member, Iowa State Bar, California State Bar, U.S. Supreme Court Bar.

George, Simon (1961) ..... Professor, Physics
B.Sc., University of Travancore, India; M.Sc., University of Saugar, India; Ph.D., University of British Columbia.

Gerlach, Patricia (1972) ..... Counselor
B.S., Lawrence University; M.A., California State University, Long Beach; Ph.D., U.S. International University.

Germann, A.C. (1957) ..... Professor, Criminal Justice
B.S., Loyola University, Los Angeles; M.S., D.P.A., University of Southern California.

Gibbar, Jennifer J. (1975) ..... Visiting Assistant Professor, Art
B.F.A., Bradley University; M.F.A., Hoffberger School of Painting of the Maryland Institute.

Gibbs, Norma B. (1966) ..... Associate Professor, Educational Psychology
Ph.B., Northwestern University; M.Ed., University of Illinois.

Gibson, Anne A. (1976) ..... Lecturer, Theatre Arts
B.F.A., Syracuse University; M.F.A., Carnegie Mellon University.

Gietl, Rudy E. (1966) ..... Associate Professor, Industrial Education
B.S., State Teachers College, California, Pennsylvania; M.A., California State University, Long Beach; Ed.D., University of California, Los Angeles.

Gilde, Helen C. (1959) ..... Professor, English
B.A., M.A., University of Colorado; Ph.D., University of Chicago.

Gillis, Emma J. (1971) ..... Associate Professor, Quantitative Systems
B.A., University of Arizona; M.S., Ed.D., University of Southern California.

Gilon, Paul R. (1969) ..... Associate Professor, Quantitative Systems
B.S., New York City College; M.A., Ph.D., University of Southern California.

Gilpin, C. Barclay, P.E. (1966) ..... Professor, Mechanical Engineering
B.S., University of Wisconsin; M.S., Ph.D., Carnegie Institute of Technology.

Gittleman, Arthur P. (1966) ..... Professor, Mathematics
B.A., M.A., Ph.D., University of California, Los Angeles.

Glass, Latanya (1973) ..... Assistant Professor, Physical Education
B.A., California State University, Long Beach; M.A., California State University, Los Angeles.

Glasser, Alan J. (1959) ..... Professor, Educational Foundations
B.A., Stanford University; M.A., Ph.D., Boston University.

Glenn, Constance W. (1973) ..... Assistant Professor, Art
B.A., University of Kansas; M.A., California State University, Long Beach.

Glenn, Kenneth (1956) ..... Professor, Art
B.A., M.F.A., University of Washington.

Glezakos, Agathi (1974) ..... Assistant Professor, Social Welfare
B.A., Pierce College, Greece; M.S.W., Ph.D., University of Southern California.

Glezakos, Constantine (1968) ..... Professor, Economics
B.A., Athens School of Economics; M.A., Ph.D., University of Southern California.

Goddard, Kathryn E. (1969) ..... Associate Dean for Student Activities
B.A., University of California, Berkeley; M.S., Indiana University; Ed.D., University of Southern California.

Gold, V. Yvonne (1972) ..... Associate Professor, Elementary Education
B.A., M.A., California State University, Long Beach; Ed.D., University of Southern California.

Goldish, Dorothy M. (1958) ..... Professor, Chemistry
B.S., Stanford University; Ph.D., University of California, Berkeley.

Gonsalves, John, Jr. (1969) ..... Associate Professor, Physical Education
B.A., M.A., California State University, Long Beach.

Good, John H. (1967) ..... Associate Professor, Criminal Justice
B.S., California State University, Long Beach; M.S., University of Southern California.

Gormley, Joan (1978) ..... Medical Officer
B.S., University of California, Los Angeles; M.D., University of California, Los Angeles School of Medicine

Gosselin, Edward A. (1969) ..... Associate Professor, History
B.A., Yale University; M.A., Ph.D., Columbia University.

Graetz, Ralph C. (1956) ..... Professor, Educational Foundations
B.S., Wisconsin State College, Milwaukee; M.Ed., Marquette University; Ed.D., Michigan State University.

Graff, Herman H. (1964) ..... Professor, Art
B.A.E., DePaul University, Chicago, Illinois; M.A.E., Northwestern University.

Graham, Harold V. (1969) ..... Professor, Secondary Education
B.A., University of Southern California; M.A., California State University, Los Angeles; Ed.D., University of Florida.

Graham, John A. (1975) ..... Assistant Professor, Educational Administration
B.S., Fitchburg State College; M.A., Columbia University; Ph.D., Harvard University.

Grainge, Floyd M. (1953) ..... Professor, Industrial Education
Associate Dean, School of Applied Arts and Sciences
B.S., M.S., Iowa State University; Ed.D., University of California, Los Angeles.

Gramlich, Jay J. (1956) ..... Professor, Instructional Media
B.S., Southwestern State College, Oklahoma; M.Ed., Southern Methodist University; Ed.D., University of Oklahoma.

Granger, Jean M. (1972) ..... Associate Professor, Social Welfare
B.A., Fisk University; M.S.W., Fordham University.

Grannell, Roswitha B. (1967) ..... Professor, Geological Sciences
B.A., Pomona College; Ph.D., University of California, Riverside.

Gray, David E. (1954) ..... Professor, Recreation
Vice President for Administration and Staff Coordination
B.A., California State University, Los Angeles; M.S., University of California, Los Angeles; D.P.A., University of Southern California.

Green, Jack (1970) ..... Professor, Geological Sciences
B.S., Virginia Polytechnic Institute; Ph.D., Columbia University.

Green, John H. (1955) ..... Professor, Theatre Arts
B.A., Central State College, Edmond, Oklahoma; M.A., Northwestern University; Ph.D., University of Denver.

Green, Kenneth F. (1968) ..... Professor, Psychology
B.A., Brown University; M.S., Ph.D., University of Massachusetts.

Greer, Beatrice M. (1968) ..... Assistant Professor, Art
B.A., M.A., University of California, Los Angeles.

Gregory, Carl E. (1951) ..... Professor, Human Resources Management
B.A., University of Washington; M.A., Ed.D., Columbia University.

Gregory, James R. (1970) ..... Associate Professor, Anthropology
B.A., University of Southern California; Ph.D., University of Pittsburgh.

Gregory, Kenneth M. (1973) ..... Associate Professor, Biology
B.A., Ph.D., University of California, Berkeley.

Grencik, Judith M. (1973) ..... Assistant Professor, Criminal Justice
B.A., Baylor University; M.Ed., Louisiana State University; Ph.D., University of Maryland. Marriage, Family Certificate.

Griffith, Betty Rose (1968) ..... Professor, Physical Education
B.A., M.A., East Carolina University; Ph.D., University of Southern California.

Grimmett, Dixie Ann (1965) ..... Associate Professor, Physical Education
B.S., Brigham Young University; M.A., Washington State University.

Gross, Calvin D. (1962) ..... Professor, Art
B.A., Iowa University; M.F.A., Ph.D., University of Iowa.

Grossman, Arthur W. (1968) ..... Associate Professor, Industrial Technology
B.S., California State University, Long Beach; M.S., Bradley University; Ph.D., University of Missouri.

Grounds, Carl T. (1959) ..... Counselor
B.S., M.Ed., University of Oklahoma.

Guerriere, Daniel (1969) ..... Associate Professor, Philosophy
B.A., M.A., Ph.D., Duquesne University.

Gunns, Albert F. (1967) ..... Assistant Professor, History
B.A., University of Puget Sound; M.A., Ph.D., University of Washington.

Gunter, Serafina Q. (1964) ..... Professor, Accounting
B.S., M.S., California State University, Long Beach; C.P.A. Certificate, California.

Guthrie, C. Robert (1963) ..... Professor, Criminal Justice
B.A., California State University, Fresno; M.S., D.P.A., University of Southern California.

Haglund, Elaine J. (1972) ..... Associate Professor, Elementary Education
B.A., University of California, Los Angeles; M.A., Ph.D., Michigan State University.

Halls, Judith A. (1972) ..... Associate Professor, Criminal Justice
B.S., Loma Linda University; M.S., California State University, Long Beach; J.D., Southwestern University.

Hall, Hubert V. (1959) ..... Professor, Marketing
B.A., M.A., University of Oregon.

Halliwell, Michael J. (1968) ..... Associate Professor, Sociology
B.A., M.A., Ph.D., University of California, Los Angeles.

Hallstone, Victor (1970) ..... Medical Officer
B.A., University of California, Berkeley; M.D., University of Southern California Medical Center.

Hamburger, Charles D. (1965) ..... Professor, Management
B.A., M.A., University of California, Los Angeles; Ph.D., University of Southern California.

Hamel, Albert (1956) ..... Professor, Educational Foundations
B.A., University of California, Los Angeles; M.A., Emory University; Ed.D., University of California, Los Angeles.

Hamilton, Arlene D. (1966) ..... Associate Professor, Home Economics
B.S., Farmington State Teachers College, Farmington, Maine; M.Ed., Pennsylvania State University.

Hamilton, Elizabeth S. (1968) ..... Associate Professor, Dance
B.F.A., University of Texas; die tanzerische und tanzpadagogifche AbschluBprufung, Mary Wigman Schule, West Berlin, Germany.

Hanson, Raphael M. (1961) ..... Professor, Psychology
B.A., M.A., Ph.D., University of California, Berkeley.

Haralson, Sally A. (1966) ..... Professor, Psychology
B.A., Milwaukee-Downer College, Milwaukee, Wisconsin; M.A., Indiana University; Ph.D., University of California, Los Angeles.

Hardeman, Nicholas P. (1955) ..... Professor, History
B.A., M.A., Ph.D., University of California, Berkeley.

Harding, Forrest E. (1971) ..... Professor, Marketing
B.S., Southern Illinois University; M.S., Northern Illinois University; D.B.A., Arizona State University.

Hardy, Leroy C. (1953) ..... Professor, Political Science
B.A., University of California, Santa Barbara; Ph.D., University of California, Los Angeles.

Harlow, Charles V. (1968) ..... Professor, Finance
B.A., Stanford University; M.B.A., D.B.A., University of Southern California.

Harman, Marsha S. (1966) ..... Associate Professor, Sociology
B.A., M.A., Ph.D., University of California, Los Angeles.

Harman, Robert C. (1969) ..... Associate Professor, Anthropology
B.A., University of California, Santa Barbara; M.A., Ph.D., University of Arizona.

Harris, Alice M. (1969) ..... Associate Professor, Educational Psychology
B.A., Idaho State University; M.S., Ph.D., University of Oregon.

Harris, Edwin R. (1959) ..... Professor, Chemistry
B.S., M.S., University of Oklahoma; Ph.D., University of California, Berkeley.

Harris, Nap (1968) ..... Associate Dean for Student Activities
B.A., M.S., California State University, Long Beach.

Harriston, Roland F. (1975) ..... Assistant Professor, Industrial Technology
B.S., California State University, Long Beach.

Hartman, William E. (1951) ..... Professor, Sociology
B.A., M.A., Ph.D., University of Southern California.

Hartsfield, Arnett L., Jr. (1974) ..... Associate Professor, Black Studies
B.A., LL.B., University of Southern California.

Harvey, Bernard N. (1967) ..... Associate Professor, Mathematics
B.S., University of Ottawa; M.A., University of Minnesota; Ph.D., University of California, Irvine.

Hasbrouck, Janet L. (1969) ..... Periodicals Catalog Librarian
B.A., California State University, Los Angeles; M.L.S., University of Southern California.

Haskell, Martin R. (1963) ..... Professor, Sociology
B.A., City College of New York; LL.B., Brooklyn Law School; M.A., Ph.D., New York University.

Hauth, Luster E. (1964) ..... Professor, Speech Communication
B.A., M.A., University of Redlands; Ph.D., State University of Iowa.

Hayes, Glenn E., P.E. (1967) ..... Professor, Industrial Technology
B.S., M.A., California State University, Long Beach; Ed.D., University of California, Los Angeles.

Hayes, Robert E. (1961) ..... Professor, Political Science
B.A., M.A., University of Minnesota; Ph.D., University of Colorado.

Hays, Ellis R. (1968) ..... Professor, Speech Communication
B.S., Manchester College; M.A., University of Denver; Ph.D., Purdue University.

Healy, John L. (1956) ..... Associate Professor, Speech Communication
B.A., University of California, Berkeley; M.A., University of Nebraska; Ph.D., University of Southern California.

Heineman, Stephen S. (1969) ..... Associate Professor, Industrial Education
B.A., San Jose State University; M.A., California State University, Los Angeles; Ed.D., University of Southern California.

Heintz, Roy K. (1956) ..... Professor, Psychology
B.A., University of Missouri; M.A., Washington University; Ph.D., Princeton University.

Heise, Reinald C. (1958) ..... Professor, Management
B.B.A., M.A., University of Minnesota.

Helm, Sanford M. (1954) ..... Professor, Music
B.A., Transylvania College; B.Mus., M.Mus., Ph.D., University of Michigan.

Henderson, Robert B. (1955) ..... Professor, Chemistry
B.A., Cornell University; M.A., Ph.D., University of California, Los Angeles.

Hermann, John A. (1955) ..... Professor, English
B.A., Carroll College, M.A., University of Wisconsin; Ph.D., State University of Iowa.

Hernandez-Alarcon, Eduardo (1977) ..... Lecturer, Mexican-American Studies
B.A., Ph.D., University of California, Los Angeles.

Hertz, Robert M. (1969) ..... Associate Professor, English
B.A., Rutgers University; M.A., Syracuse University; Ph.D., University of Southern California.

Hickerson, Truman O., Jr. (1965) ..... Professor, Accounting
B.S., M.B.A., University of California, Los Angeles; C.P.A. Certificate, California.

Hidalgo, Jesus F. (1972) ..... Associate Professor, Secondary Education, Mexican American Studies
B.A., Loyola University; M.S., Ph.D., University of Southern California.

Higgins, John E. (1964) ..... Professor, History
B.A., Tufts University; M.A., Ph.D., Harvard University.

Hile, Lloyd R. (1968) ..... Associate Professor, Chemical Engineering
B.S., University of California, Berkeley; M.A., Ph.D., Princeton University.

Hill, Cliff W. (1967) ..... Associate Professor, Biology
B.S., Wisconsin State College; B.S., M.S., Montana State College; Ph.D., Michigan State University.

Hill, Helen (1972) ..... Assistant Professor, Accounting
B.S., M.B.A., University of California, Los Angeles.

Hill, Lyda (1977) ..... Lecturer, Nursing
B.S., University of San Francisco; M.S., California State University, Los Angeles.

Hipkiss, Robert A. (1966) ..... Professor, English
B.A., San Jose State University; M.A., Ph.D., University of California, Los Angeles.

Hironaka, Hiram T. (1976) ..... Assistant Professor, Industrial Education
B.A., M.A., California State University, Long Beach.

Hitchcock, Howard G. (1958) ..... Professor, Art
B.A., College of Puget Sound; M.F.A., University of Washington; Ed.D., Teachers College, Columbia University.

Ho, Ju-Shey (1970) ..... Associate Professor, Biology
B.S., National Taiwan University; M.A., Ph.D., Boston University.

Hoff, Joan C. (1957) ..... Professor, Home Economics
B.S., George Pepperdine College; M.S., University of Southern California.

Hoff, Michael K. (1975) ..... Lecturer, Recreation
B.S., M.S., University of Utah.

Hoffman, Mabel J. (1961) ..... Professor, Nursing
B.S., University of California, San Francisco; M.A., Teachers College, Columbia University.

Hogan, Michael H. (1975) ..... Lecturer, Psychology
B.S., Manhattan College; M.A., State University of New York, Stony Brook; Ph.D., University of Colorado.

Holmes, Robert T. (1961) ..... Professor, Marketing
B.S., Purdue University; M.B.A., Northwestern University; Ph.D., State University of Iowa.

Hommel, Leonard S. (1961) ..... Professor, Psychology
B.A., Wayne State University; M.A., State University of Iowa; Ph.D., Stanford University.

Hood, David C. (1966) ..... Professor, History
B.A., University of California, Santa Barbara; Ph.D., University of Southern California.

Hopewell, Rita J. (1971) ..... Associate Professor, Accounting
B.S., University of North Dakota; M.A., California State University, Long Beach; D.B.A., University of Southern California.

Horn, Stephen (1970) ..... President
Professor, Political Science
B.A., Stanford University; M.P.A., Harvard University; Ph.D., Stanford University.

Hostetter, Gene H. (1968) ..... Professor, Electrical Engineering
B.S.E.E., M.S.E.E., University of Washington; Ph.D., University of California, Irvine.

Houde, Adelore L. (1965) ..... Professor, Electrical Engineering
B.A., University of Toronto; M.A., University of Houston; Ph.D., University of Notre Dame.

Howe, Jack H. (1967) ..... Professor, Speech Communication
B.A., Morningside College; M.A., University of South Dakota; LL.B., University of South Dakota; Ph.D., University of Nebraska.

Hrubant, H. Everett (1957) ..... Professor, Biology
B.S., University of Illinois; M.S., Ph.D., Ohio State University.

Hu, Chi-yu Yang (1963) ..... Professor, Physics
B.S., National Taiwan University, Taipei, Taiwan; Ph.D., Massachusetts Institute of Technology.

Hubbard, Harold G. (1970) ..... Professor, Sociology
B.A., University of California, Los Angeles; M.A., Southern Methodist University; Ph.D., University of Southern California.

Hubble, Thomas N. (1958) ..... Professor, Comparative Literature
B.A., M.A., Ph.D., University of Southern California.

Huckaby, David G. (1973) ..... Assistant Professor, Biology
B.S., M.S., Louisiana State University; Ph.D., University of Michigan.

Hunt, Richard L. (1965) ..... Associate Professor, Chemistry
B.S., Antioch College, Yellow Springs, Ohio; Ph.D., University of Chicago.

Hunter, Carol A. (1969) ..... Professor, Educational Psychology
B.A., University of California, Los Angeles; M.A., California State University, Long Beach; Ph.D., University of Southern California.

Hupka, Ralph B. (1969) ..... Associate Professor, Psychology
B.A., M.A., San Francisco State University; Ph.D., University of Massachusetts.

Hutcherson, John V. (1956) ..... Professor, Physics
B.A., University of California; M.S., University of Colorado.

Hutton, Erma L. (1966) ..... Professor, Social Welfare
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Jackman, Taylor T. (1963) ..... Professor, Educational Administration
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James, Wilfred P. (1952) ..... Professor, English
B.A., University of Dubuque; M.A., Ph.D., Northwestern University.

James, Willard D. (1967) ..... Professor, Mathematics
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Jones, Ira (1969) ..... Professor, Biology
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Jones, Kristi S. (1968) ..... Associate Professor, Art
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Jung, John R. (1968) ..... Professor, Psychology
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Kalbus, Gene E. (1957) ..... Professor, Chemistry
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Lee, Richard E. (1955) ..... Professor, English
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Lipski, Alexander (1958) ..... Professor, History, Religious Studies
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Little, Gary (1966) ..... Associate Director of Housing, Programs
B.A., M.A., California State University, Long Beach.

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Bachiller, Universidad de Valencia, España; M.A., University of Southern California; Doctor en Filosofía y Letras, Universidad de Valencia, España.

Markman, Roberta H. (1968) ..... Professor, Comparative Literature
B.A., Hunter College; M.A., Columbia University; Ph.D., Occidental College.

Marrs, Richard F. (1968) ..... Associate Professor, Secondary Education
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Marshak, Seymour (1977) ..... Dean, School of Business Administration; Professor, Marketing
B.S., Temple University; M.B.A., University of Michigan; Ph.D., New York University.

Marsi, Kenneth L. (1961) ..... Professor, Chemistry
B.A., San Jose State University; Ph.D., University of Kansas.

Marsot, Alain-Gerard (1968) ..... Professor, Political Science
Licence en Droit, Certificat d'Aptitude a la Profession d'Avocat; Diplome d'Etudes Superieures de Science Politique; Doctorat d'Etat en Science Politique, Faculty of Law and Economics, Paris, France; B.Litt., St. Anthony's College, Oxford, England.

Martel, Diane L. (1968) ..... Associate Professor, Art
B.A., College of New Rochelle; M.A., Boston University.

Martin, Howard S. (1965) ..... Professor, Radio-TV
B.A., Olivet Nazarene College, Kankakee, Illinois; M.A., Ph.D., University of Wisconsin.

Martin, John M. (1955) ..... Professor, Art
B.S., Massachusetts School of Art; M.A.T., Harvard University.

Martin, Ross D. (1970) ..... Associate Professor, Industrial Education
B.S., Northern Illinois University; M.A., Ball State University.

Martinelli, John T. (1965) ..... Professor, Accounting
B.B.A., M.Ed., Canisius College, Buffalo, New York; M.B.A., University of Chicago.

Martinez, Dan G. (1964) ..... Professor, Mathematics
B.A., M.A., University of California, Riverside; Ph.D., University of California, Los Angeles.

Masback, Frederic J. (1964) ..... Professor, English
B.A., Cornell University; M.A., University of Wisconsin; Ph.D., Syracuse University.

Maslow, Phyllis F. (1977) ..... Assistant Professor, Educational Psychology
Ph.B., M.A., University of Chicago; Ph.D., University of Southern California.

Mason, Charles F. (1964) ..... Professor, Psychology
B.A., State University of Iowa; M.S., Ph.D., Purdue University.

Massaro, Nick (1954) ..... Professor, Sociology
B.A., M.A., Ph.D., University of Southern California.

Massey, George E. (1959) ..... Professor, Philosophy
B.A., Columbia University; M.A., Harvard University.

Mastropaolo, Joseph A. (1968) ..... Professor, Physical Education
B.S., Brooklyn College; M.S., University of Illinois; Maitre d' Escrime, Institut Nationale des Sports, Paris; Ph.D., State University of Iowa.

Matthews, Justus F. (1971) ..... Associate Professor, Music
B.A., M.A., California State University, Northridge; Ph.D., State University of New York, Buffalo.

Maue, James B. (1961) ..... Professor, Philosophy
B.S., Trinity College, Hartford, Connecticut; M.A., Stanford University; Ph.D., University of Southern California.

Maury, James B., Jr. (1967) ..... Associate Professor, Accounting
B.S., University of Utah; J.D., Loyola University; C.P.A., California.

May, Charles E. (1967) ..... Professor, English
A.B., Morehead State College; M.A., Ph.D., Ohio University.

Mayberry, Mineva (1975) ..... Associate Professor, Nursing
B.S., Tuskegee Institute; M.A., New York University.

Mayfield, Darwin L. (1956) ..... Professor, Chemistry; Director of Research
B.A., Bowling Green State University; M.S., University of Chicago; Ph.D., University of Wisconsin.

Meisenheimer, Flora A. (1973) ..... Associate Professor, Nursing
B.S., Marycrest College, Iowa; M.A., Columbia University; Ed.M., University of Hawaii.

Mendez, Peter J. (1976) ..... Assistant Professor, Art
B.A., M.A., California State University, Long Beach.

Menees, James H. (1959) ..... Professor, Entomology
B.A., San Jose State University; M.S., Ph.D., Cornell University.

Merrill, John C. (1977) ..... Visiting Professor, Journalism
B.A., Mississippi Delta State University; M.A., Louisiana State University; M.A., University of Missouri; Ph.D., University of Iowa.

Metzger, Vernon A. (1949) ..... Professor, Management
B.S., M.B.A., University of California, Berkeley.

Michael, Joan J. (1968) ..... Professor, Educational Psychology
B.A., M.S., Ph.D., University of Southern California.

Mijares, Ernest R., P.E. (1965) ..... Associate Professor, Mechanical Engineering
B.S., New York University; M.S., University of Southern California.

Miller, Alan C. (1974) ..... Assistant Professor, Biology
B.A., Stanford University; M.A., Ph.D., University of Oregon.

Miller, Edward (1968) ..... Professor, Mechanical Engineering
B.Ch.E., City College of New York; M.S., D.Engr.Sci., New York University.

Miller, Margaret E. (1966) ..... Professor, Physical Education
B.A., University of California, Santa Barbara; M.A., California State University, Long Beach; Ed.D., University of Southern California.

Minar, John (1968) ..... Associate Professor, Recreation
B.A., Whittier College; M.A., University of Southern California.

Mittleman, Leslie B. (1957) ..... Professor, English
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Miyazaki, Akira (1969) ..... Associate Professor, Asian American Studies
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Moore, Beth (1970) ..... Associate Professor, Nursing
B.S., University of Cincinnati; M.S., University of Maryland.

Moore, Mabel S. (1967) ..... Associate Professor, Home Economics
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Moore, Perry C. (1974) ..... Director of Athletics
B.S., University of Maryland.

Morehead, Hubert P. (1955) ..... Professor, Radio-TV
B.S., M.A., Ph.D., Ohio State University.

Morgan, Eunice (1977) ..... Lecturer, Nursing
B.S., M.S., California State University, Los Angeles.

Morgan, Tom D. (1967) ..... Professor, Physical Education
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Morris, Frank S. (1969) ..... Associate Professor, Secondary Education
B.S., East Texas Baptist College; M.A., Stephen F. Austin College; Ed.D., University of California, Los Angeles.

Morris, Gene P. (1967) ..... Associate Professor, Finance
B.A., California Western University; M.A., University of California, Los Angeles.

Morris, Kathleen S. (1976) ..... Lecturer, Home Economics
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Morris, Raymond J. (1969) ..... Associate Professor, Physical Therapy
B.A., M.A., California State University, Long Beach; Certificate in Physical Therapy, University of Southern California; Registered Physical Therapist, California.

Morse, C. Wesley (1974) ..... Associate Professor, Management
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Morse, James O. (1976) ..... Assistant Medical Director
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Moryl, C. Douglas (1963) ..... Professor, Art
B.A., M.A., University of California, Los Angeles.

Mosher, Elton L. (1965) ..... Assistant Education Librarian
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Mosier, Stanley D. (1974) ..... Associate Professor, Accounting
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Mostafa, M. Gamal, P.E. (1968) ..... Professor, Civil Engineering
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Moustafa, Mohamed E. (1969) ..... Professor, Accounting
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Moy, Marilyn J. (1971) ..... Assistant Fine Arts Librarian
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Muller-Stach, Dieter K. (1968) ..... Professor, Art
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Murphy, Carol M. (1976) ..... Lecturer, Nursing
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Musafia, Julien (1959) ..... Professor, Music
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Myers, Dean W. (1969) ..... Associate Professor, Art
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Nakao, Zensho (1977) ..... Lecturer, Mathematics
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Nathe, Patricia A. (1976) ..... Lecturer, Criminal Justice
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Nelson, Dale E. (1956) ..... Professor, Quantitative Systems
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Newcastle, Helen P. (1969) ..... Associate Professor, Elementary Education
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Newell, Robert M. (1975) ..... Lecturer, Music
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Newman, J. Robert (1967) ..... Professor, Psychology
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Nicholson, Robert L. (1957) ..... Professor, Industrial Education
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Northrup, Chris (1977) ..... Lecturer, Journalism
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Nummedal, Susan G. (1972) ..... Associate Professor, Psychology
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Nygaard, John E. (1963) ..... Professor, Psychology
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Oda, Hiromi (1977) ..... Lecturer, Art
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Oden, Richard S. (1961) ..... Professor, Art
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Odo, Franklin S. (1972) ..... Associate Professor, Asian-American Studies
B.A., Princeton University; M.A., Harvard University; Ph.D., Princeton University.

Olguin, Leonard (1974) ..... Associate Professor, Elementary Education
B.A., M.A., California State University, Los Angeles.

Oliver, Hazel A. (1960) ..... Education Catalog Librarian
B.Th., Northwestern Christian College, Eugene, Oregon; M.A., Butler University, Indianapolis, Indiana; M.S. in L.S., University of Southern California.

Olsen, R. Warner (1960) ..... Music Catalog Librarian
B.Mus.Ed., University of Colorado; M.S. in L.S., University of Denver.

Opstad, Paul E. (1958) ..... Counselor
B.A., M.A., Ph.D., State University of Iowa. Licensed Psychologist.

Orgill, Douglas H. (1951) ..... Professor, English
B.A., M.A., Brigham Young University; Ph.D., University of Southern California.

Orpet, Russel E. (1959) ..... Professor, Educational Psychology
B.A., M.S., M.Ed., Ed.D., University of Southern California.

Osborne, Cynthia A. (1975) ..... Lecturer, Art
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Osuna, Alex (1970) ..... Associate Professor, Mexican-American Studies
B.A., M.A., University of California, Los Angeles.

Outwater, Richard A. (1969) ..... Associate Professor, Geography
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Owen, Carolyn M. (1970) ..... Professor, Educational Psychology
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Paal, Frank F. (1968) ..... Professor, Electrical Engineering
B.S., McGill University; M.A., Stanford University; M.S., Ph.D., University of California, Los Angeles.

Padilla, Gilbert J. (1968) ..... Associate Professor, Psychology
B.A., M.A., Ph.D., University of California, Los Angeles.

Palubinskas, Feliksas (1965) ..... Professor, Marketing
B.S.C., M.B.A., DePaul University, Chicago, Illinois; Ph.D., University of Illinois.

Pang, Stephen C.N. (1975) ..... Assistant Professor, Biology
B.S., Hong Kong Baptist College; Ph.D. University of Kansas.

Parenzan, Annie R. (1974) ..... Assistant Professor, Finance
B.A., California State University, Long Beach; J.D., University of California, Los Angeles.

Parker, Douglas A. (1968) ..... Associate Professor, Sociology
B.A., San Francisco State University; M.A., Ph.D., University of California, Berkeley.

Parker, Kermit U. (1966) ..... Associate Director of Housing, Services
B.A., Simpson College, Indianola, Iowa.

Parmley, Anna M. (1969) ..... Associate Professor, Biology
B.S., Central Missouri State College; M.A., Teachers College, Columbia University.

Partridge, Lyman M. (1964) ..... Professor, Communicative Disorders
B.A., Brigham Young University; M.A., Teachers College, Columbia University; Ph.D., University of Michigan.

Pastrana, David E. (1973) ..... Associate Professor, Finance
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Patcha, John C. (1963) ..... Professor, Industrial Education
B.A., University of California, Santa Barbara; M.S., California State University, Long Beach; Ed.D., University of California, Los Angeles.

Patterson, William (1957) ..... Professor, Physical Education
B.A., San Diego State University; M.Ed., Springfield College, Massachusetts; Ed.D., University of California, Los Angeles.

Payne, Carl R. (1968) ..... Associate Professor, Quantitative Systems
B.S., Case Institute of Technology; M.B.A., California State University, Long Beach; Ph.D., University of California, Irvine.

Peccorini, Francisco L. (1966) ..... Professor, Philosophy
B.A., St. Francis Xavier College, Spain; Doctor in Philosophia, University of Comillas, Spain.

Peck, David R. (1967) ..... Associate Professor, English
B.A., Colgate University; Ph.D., Temple University.

Peck, Roderick B. (1957) ..... Dean, Summer Session; Professor, Educational Psychology
B.A., Nebraska State Teachers College, Wayne, Nebraska; M.S., Ph.D., Iowa State University.

Pelters, Wilm (1970) ..... Professor, German, Russian and Classics
M.A., Ph.D., Syracuse University.

Penalosa, Fernando (1970) ..... Professor, Sociology
B.A., A.M., University of Denver; Ph.D., University of Chicago, University of Southern California.

Pentecost, Wanda L. (1963) ..... Professor, Nursing
B.S., Mount Union College, Alliance, Ohio; M.S., University of California, Los Angeles.

Perigut, Louis E. (1965) ..... Professor, Chemistry
B.S., M.S., Ph.D., Rutgers University.

Perry, Leland M. (1956) ..... Professor, Elementary Education
B.A., Duke University; M.Ed., Ed.D., University of Missouri.

Pestolesi, Robert A. (1955) ..... Professor, Physical Education
B.S., University of Southern California; M.A., California State University, Long Beach; Ph.D., University of Southern California.

Peters, Donald W. (1953) ..... Professor, History
B.A., Occidental College; M.A., Claremont Graduate School; Ph.D., University of Southern California.

Peters, Gary L. (1971) ..... Associate Professor, Geography
B.A., California State University, Chico; M.S., Ph.D., Pennsylvania State University.

Petersen, Paul G. (1962) ..... Professor, Psychology
B.A., Ph.D., University of California, Berkeley.

Peterson, Audrey C. (1966) ..... Professor, English
B.A., University of California, Los Angeles; M.A., California State University, Long Beach; Ph.D., University of Southern California.

Pettus, John A. (1976) ..... Lecturer, Chemistry
B.S., University of Washington; Ph.D., University of Hawaii.

Pflaum, Peter E. (1976) ..... Associate Professor, Public Policy and Administration
B.A., University of Chicago; M.Ed., Harvard University; Ph.D., Florida State University.

Pickard, Kenneth L. (1971) ..... Associate Professor, Quantitative Systems
B.S., Indiana State University; M.A., Ball State University; Ed.D., Northern Illinois University.

Pierce, Avery D. (1977) ..... Assistant Professor, Social Welfare
B.A., College of Idaho; M.S.W., West Virginia University.

Pietsch, Theodore W. (1975) ..... Assistant Professor, Biology
B.A., University of Michigan; M.S., Ph.D., University of Southern California.

Pine, Alvin A. (1962) ..... Associate Professor, Art
B.S., City College of New York; M.F.A., Cranbrook Academy of Art.

Plecnik, Joseph M., P.E. (1973) ..... Associate Professor, Civil Engineering
B.E., Youngstown State University; M.S., Ph.D., Ohio State University.

Plourde, Ferdinand J., Jr. (1966) ..... Associate Professor, English
B.A., M.A., Ph.D., University of Minnesota.

Po, Henry N. (1968) ..... Professor, Chemistry
B.S., Mapua Institute of Technology, Manila, Philippines; M.S., University of Wisconsin; Ph.D., University of California, Davis.

Polakoff, Keith I. (1969) ..... Associate Professor, History
B.A., Clark University; M.A., Ph.D., Northwestern University.

Polk, Dora Beale (1968) ..... Associate Professor, English
B.A., University of Wales, Cardiff; M.A., M.F.A., Ph.D., University of California, Irvine; M.A., University of Colorado.

Pollock, Marion B. (1964) ..... Professor, Health Science
B.A., Miami University; M.S., Ed.D., University of California, Los Angeles.

Pomeroy, Charles W. (1970) ..... Associate Professor, English
B.A., Occidental College; A.M., Ph.D., University of Southern California.

Ponsar, Warren (1961) ..... Professor, Social Welfare
B.A., California State University, Long Beach; M.S., University of Missouri.

Pooler, Frank M. (1959) ..... Professor, Music
B.Mus, St. Olaf College; M.A., M.F.A., University of Iowa.

Popham, Donald F. (1956) ..... Professor, Secondary Education
B.A., M.A., University of Denver; Ed.D., University of Colorado.

Porter, Richard E. (1970) ..... Associate Professor, Speech Communication
B.A., California State University, Long Beach; M.A., San Diego State University; Ph.D., University of Southern California.

Portner, Doreen L. (1977) ..... Assistant Professor, Social Welfare
B.A., M.A., University of California, Berkeley; M.S.W., D.S.W., University of Southern California.

Potter, Richard C., P.E. (1967) ..... Professor, Mechanical Engineering
B.S., M.S., Ph.D., Purdue University. Dean, School of Engineering

Powell, James G. (1961) ..... Professor, Speech Communication
B.A., University of Minnesota; M.A., Pennsylvania State University; Ph.D., University of Wisconsin.

Powell, J. Richard (1954) ..... Professor, Economics
B.A., University of California, Santa Barbara; M.A., Ph.D., University of California, Los Angeles.

Powell, Melchior D. (1973) ..... Professor, Public Policy and Administration
Director, Center for Public Policy and Administration
B.S., Jersey City State College; M.A., George Washington University; LL.B., University of Baltimore; Ph.D., University of Maryland.

Powell, Paul E. (1955) ..... Professor, Industrial Education
B.S., Bowling Green State University; M.S., Stout Institute; Ed.D., Wayne University.

Preston, Louis A. (1970) ..... Counselor
B.Mus.Ed., M.Ed., Texas Southern University.

Prince, John H. (1974) ..... Lecturer, Music
B.M., University of Redlands; M.A., California State University, Los Angeles.

Probst, Alan R. (1968) ..... Associate Professor, Health Science
B.A., University of California, Los Angeles; M.A., California State University, Los Angeles.

Purcell, Jane F. (1964) ..... Associate Professor, Art
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Purcell, Mary-Joe (1959) ..... Professor, English
Associate Dean, School of Humanities
B.S., University of Arkansas; M.A., Ph.D., University of Missouri.

Pusavat, Yoko S. (1972) ..... Assistant Professor, Asian American Studies
B.A., Osaka Women's University, Japan; M.A., California State University, Fresno.

Quest, Charles E. (1966) ..... Associate Professor, Philosophy
B.A., Duke University; Ph.D., Claremont Graduate School.

Quillen, Elisabeth M. (1964) ..... Associate Professor, French-Italian
License-es-Lettres, Doctorat, University of Paris, La Sorbonne.

Quinn, Michael T. (1970) ..... Professor, Human Resources Management
B.A., M.B.A., Cornell University; Ph.D., Ohio State University.

Quinones, Louis E. (1965) ..... Associate Professor, Industrial Education
B.S., M.S., State University of New York Teachers College, Oswego, New York; Ed.D., University of California, Los Angeles.

Rader, Bonnie J. (1970) ..... Associate Professor, Home Economics
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Ragland, James F. (1955) ..... Professor, History
B.A., University of Missouri; M.A., University of Southern California; Ph.D., Stanford University.

Rahh, Amen (1970) ..... Assistant Professor, Black Studies
B.A., California State University, Long Beach; M.A., Azusa Pacific College.

Raine, Walter J. (1968) ..... Professor, Psychology
M.A., Ph.D., University of Chicago.

Rainey, Dennis G. (1956) ..... Professor, Zoology
B.A., Westminster College, Missouri; M.S., University of Arkansas; Ph.D., University of Kansas.

Raj, Harkisan D. (1962) ..... Professor, Microbiology
B.S., University of Bombay, India; M.S., Ph.D., University of Poona, India.

Ramirez, Genevieve M. (1974) ..... Assistant Professor, Mexican American Studies
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Ramsey, Robert W. (1957) ..... Professor, Art
B.F.A., University of Southern California; M.F.A., Alfred University, New York; Ph.D., Ohio State University.

Randall, George A. (1969) ..... Associate Professor, Industrial Education
B.S., M.A., Michigan State University; Ed.D., University of California, Los Angeles.

Rankin, Gilman W. (1969) ..... Associate Professor, Theatre Arts
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Rao, Sridhar Jawalker K. (1976) ..... Lecturer, Civil Engineering
B.E., University College of Engineering, India; M.S., Ph.D., University of Minnesota.

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Raun, Toivo U. (1969) ..... Associate Professor, History
B.A., Swarthmore College; M.A., Ph.D., Princeton University.

Rayner, Clare G. (1967) ..... Professor, Music
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Rebok, George (1977) ..... Lecturer, Psychology
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Resch, William M. (1964) ..... Professor, Psychology
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Revle, Virgil A. (1957) ..... Professor, Educational Psychology
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Reyna, Henry (1970) ..... Counselor
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Rhodes, Fen (1967) ..... Professor, Psychology
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Richard, Sandra (1977) ..... Lecturer, Management
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Richmond, Patricia (1969) ..... Associate Professor, Sociology
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Ridder, Hans P. (1964) ..... Associate Professor, Political Science
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Ringer, Virginia H. (1961) ..... Professor, Philosophy
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Ritz, William C. (1977) ..... Associate Professor, Biology
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Roberts, John W. (1977) ..... Lecturer, Chemistry
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Roberts, Sharon L. (1974) ..... Associate Professor, Nursing
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Robinson, Douglas (1974) ..... Activities Coordinator
B.S., M.S., Iowa State University.

Robinson, Herbert B., P.E. (1962) ..... Professor, Industrial Technology
B.S., Michigan State University; M.A., California State University, Long Beach; Ed.D., University of California, Los Angeles.

Robinson, James C. (1972) ..... Associate Professor, Black Studies
B.A., M.A., California State University, Long Beach; M.A., Ph.D., Stanford University.

Rocha, Joseph R. (1974) ..... Assistant Professor, Political Science
B.A., M.C.R.P., California State University, Fresno; Ph.D., Claremont Graduate School.

Rodabaugh, Delmer J. (1955) ..... Professor, English
B.A., Park College; M.A., State University of Iowa; Ph.D., University of Minnesota.

Roden, Johanna W. (1962) ..... Professor, German, Russian and Classics
B.A., M.A., California State University, Long Beach; M.A., Ph.D., University of Southern California.

Rodney, Clara G. (1968) ..... Professor, Elementary Education
B.B.A., New York City College; M.A., New York University; Ed.D., University of California, Los Angeles.

Rodriguez, Mildred S. (1974) ..... Associate Professor, Home Economics
B.S., Oklahoma State University; M.S., Ph.D., University of Arizona.

Rogers, Fred (1959) ..... Associate Professor, Speech Communication
B.S., Kansas State University; M.A., State University of Iowa.

Rolfe, Howard C. (1960) ..... Professor, Elementary Education
B.A., M.A., University of New Mexico; Ed.D., University of California, Berkeley.

Roman, Basil P. (1959) ..... Professor, Mechanical Engineering
Diploma of Engineering, University of Bucharest; M.S., California Institute of Technology; Ph.D., University of California, Los Angeles.

Rooney, Robert F. (1970) ..... Professor, Economics
B.A., M.A., University of California, Los Angeles; Ph.D., Stanford University.

Rose, Clifton P. (1976) ..... Medical Officer
B.S., St. Mary's College; M.D., Creighton University School of Medicine.

Rose, Jack W. (1956) ..... Professor, Physical Education
B.S., M.A., University of Michigan; Ph.D., University of Southern California.

Rosenfelt, Deborah S. (1969) ..... Associate Professor, English
B.A., Goucher College; M.A., Columbia University; Ph.D., University of California, Los Angeles.

Roskam, Kay L. (1974) ..... Lecturer, Music
B.M.E., Southern Methodist University; M.M., Wichita State University; Registered Music Therapist; Ph.D., University of Kansas.

Ross, Stephen B. (1968) ..... Associate Professor, English
B.A., George Fox College, Newberg, Oregon; M.A., Ph.D., University of Southern California.

Roussos, Van (1960) ..... Testing Psychologist
B.A., M.A., California State University, Long Beach; Ed.D., University of Southern California.

Routh, Robert D. (1967) ..... Associate Professor, Industrial Education
B.A., Whittier College; M.A., California State University, Long Beach.

Rowlands, David D. (1976) ..... Visiting Professor, Public Policy and Administration
B.A., Westminster College; M.A., University of Chicago.

Royal, Sarah A. (1958) ..... Assistant Professor, Physical Education
B.A., M.S., MacMurray College.

Rudkin, Ronald D. (1968) ..... Associate Professor, Management
B.S., California State University, Northridge; M.S., University of California, Los Angeles; D.B.A., University of Southern California.

Rugg, Kenneth W. (1964) ..... Associate Professor, Theatre Arts
B.A., San Jose State University; M.A., California State University, Long Beach.

Runyon, Lowell R. (1968) ..... Associate Professor, Finance
B.S., University of Colorado; M.B.A., D.B.A., University of Southern California.

Rush, George E. (1973) ..... Assistant Professor, Criminal Justice
B.S., M.S., California State University, Long Beach; Ph.D., Claremont Graduate School.

Russell, Karl A., Jr. (1950) ..... Counselor
B.S., Indiana State Teachers College; Ed.D., Indiana University. Licensed Psychologist.

Russell, Ned M. (1965) ..... Counselor
B.A., M.A., Ph.D., University of Kansas. Licensed Psychologist.

Russell, Ruth L. (1963) ..... Professor, Microbiology
B.A., Ph.D., University of California, Los Angeles.

Ruyle, Eugene E. (1976) ..... Associate Professor, Anthropology
B.A., University of California, Berkeley; M.A., Yale University; Ph.D., Columbia University.

Ryan, James E. (1954) ..... Professor, Industrial Education
B.S., Kansas State Teachers College, Pittsburg; M.A., California State University, Long Beach; Ed.D., University of California, Los Angeles.

Ryder, Walter R. (1977) ..... Lecturer, Management
B.S., M.S., University of Illinois.

Sachdeva, Darshan (1973) ..... Associate Professor, Quantitative Systems
B.A., Panjab University; M.S., Florida State University; Ph.D., University of California.

Sakamoto, Eva (1967) ..... Assistant Professor, Nursing
B.S., University of Colorado; M.A., Columbia University.

Salem, Sema'an I. (1961) ..... Professor, Physics
B.Sc., American University, Cairo, Egypt; Ph.D., University of Texas.

Samples, Merna A. (1967) ..... Professor, Home Economics
B.S., Syracuse University; M.A., Ed.D., New York University.

Samuelson, David N. (1966) ..... Associate Professor, English
B.A., Drew University; Ph.D., University of Southern California.

Sanchez, Frederick A. (1969) ..... Associate Professor, Mexican-American Studies
B.A., California State University, Los Angeles; M.A., University of Southern California.

Sandefur, Charles R. (1964) ..... Professor, Physical Education
B.A., M.A., California State University, Long Beach.

Sartore, Annabelle J. (1968) ..... Associate Professor, Management
B.S., M.B.A., California State University, Long Beach; Ph.D. University of California, Irvine.

Sater, William F. (1967) ..... Associate Professor, History
B.A., Stanford University; M.A., Ph.D., University of California, Los Angeles.

Savage, Jana (1977) ..... Lecturer, Criminal Justice
B.Ed., University of Toledo; M.Ed., George Mason College of University of Virginia; J.D., Western State University College of Law.

Savant, Clement J. (1976) ..... Lecturer, Electrical Engineering
B.S., M.S., Ph.D., California Institute of Technology.

Sawyer, Janet B. (1957) ..... Professor, English
B.A., University of Minnesota; M.A., Ph.D., University of Texas.

Scalettar, Richard (1968) ..... Professor, Physics
B.S., City College of New York; M.A., University of Wisconsin; Ph.D., Cornell University.

Scantling, Frederick H. (1966) ..... Associate Professor, Geography
B.A., M.A., University of Arizona; Ph.D., University of California, Los Angeles.

Schaafsma, Frances M. (1959) ..... Professor, Physical Education
B.A., M.A., California State University, Long Beach; Ph.D., University of Southern California.

Schatzlein, Frank C. (1959) ..... Professor, Biology
B.A., Colgate University; Ph.D., Indiana University.

Schechter, Daniel (1969) ..... Associate Professor, Physics
B.A., University of California, Los Angeles; M.S., Ph.D., Carnegie Institute of Technology.

Schlaich, Joan M. (1965) ..... Professor, Dance
B.S., Boston University; M.A., Columbia University; Ph.D., U.S. International University.

Schmidt, Alfred I. (1967) ..... Associate Professor, Educational Psychology
B.A., M.A., New York University.

Schmidt, Milton E. (1959) ..... Professor, Industrial Education
B.E., Wisconsin State Teachers College; M.A., University of Minnesota.

Schmidt, Paul C. (1968) ..... Associate Professor, Political Science
B.A., Hamline University, St. Paul, Minnesota; M.A., University of California, Berkeley; Ph.D., University of Washington.

Schmidt, Ronald J. (1972) ..... Associate Professor, Political Science
B.A., M.A., University of California, Berkeley; Ph.D., University of California, Riverside.

Schmitt, John H. (1974) ..... Assistant Professor, Spanish-Portuguese
B.A., University of Minnesota; M.A., Ph.D., University of Wisconsin.

Schultz, Cramer W. (1964) ..... Professor, Physics
B.S., University of California, Berkeley; Ph.D., University of Southern California.

Schultz, James W. (1963) ..... Associate Professor, Physical Education
B.S., M.A., University of Southern California.

Schwab, Arnold T. (1961) ..... Professor, English
B.A., University of California, Los Angeles; M.A., Ph.D., Harvard University.

Schwartz, Howard J. (1969) ..... Professor, Mathematics
B.S., M.S., Ph.D., University of Toledo.

Schwartz, Lou I. (1976) ..... Lecturer, Nursing
B.S.N., M.N., University of California, Los Angeles.

Schwartz, Morton D., P.E. (1970) ..... Professor, Electrical Engineering
B.S., M.S., Ph.D., University of California, Los Angeles.

Schwartz, Nancy (1975) ..... Assistant Professor, Communicative Disorders
B.A., M.A., Queens College.

Schwartzkopf, Herman (1950) ..... Professor, Physical Education
B.S., Kansas State Teachers College, Fort Hays; M.S., University of Oregon; Ed.D., University of Southern California.

Scott, Bruce L. (1965) ..... Professor, Physics
B.S., California Institute of Technology; M.S., University of Illinois; Ph.D., University of California, Los Angeles.

Scott, Johanna V. (1974) ..... Assistant Professor, Political Science
B.A., Barnard College; M.A., Columbia University; Ph.D., University of Strathclyde, Scotland.

Seewerker, Joseph F. (1967) ..... Professor, Mathematics
B.A., Pomona College; Ph.D., University of California, Los Angeles.

Segelhorst, Elbert W. (1964) ..... Professor, Economics
B.A., Harris Teachers' College, St. Louis, Missouri; M.A., Washington University; Ph.D., Columbia University.

Senozan, Nail M. (1968) ..... Professor, Chemistry
B.S., Brown University; Ph.D., University of California, Berkeley.

Serrett, Thomas M. (1963) ..... Assistant Science Librarian
B.S., Tulane University; M.S., Louisiana State University.

Sexauer, Norman E. (1967) ..... Professor, Mathematics
B.S., Northwestern University; M.S., Ph.D., University of Illinois.

Shaak, John J. (1962) ..... Professor, Art
B.S., Pennsylvania State University; M.A., Columbia University.

Shainline, John W. (1966) ..... Executive-Student Affairs, Dean of Students
B.S., Pennsylvania State University; M.A., Columbia University.

Shanks, Kenneth H. (1960) ..... Professor, Speech Communication
B.A., Wittenberg; M.A., Ph.D., University of Southern California.

Shaver, Jess C. (1959) ..... Professor, Educational Psychology
B.A., Northeastern State College, Tahlequah, Oklahoma; M.Ed., Ed.D., University of Oklahoma.

Shaw, Peter L. (1974) ..... Associate Professor, Public Policy and Administration
B.A., Occidental College; M.P.A., Ph.D., New York University.

Shechter, Irving (1976) ..... Lecturer, Art
B.F.A., Carnegie Institute of Technology; M.Litt., University of Pittsburgh.

Shen, Kwang Y. (1961) ..... Professor, Physics
B.S., Ph.D., University of Maryland.

Sherain, Howard (1969) ..... Associate Professor, Political Science
B.A., Brooklyn College; M.A., Ph.D., University of California, Berkeley.

Shermis, Stewart (1970) ..... Associate Professor, Anthropology
B.A., University of California, Los Angeles; M.A., Ph.D., University of Kansas.

Shoup, Gail (1969) ..... Professor, Theatre Arts
B.A., University of Michigan; M.A., Ph.D., University of California, Los Angeles.

Siegel, Martha A. (1975) ..... Associate Professor, Nursing
B.S., University of Minnesota; M.S., University of California, Los Angeles.

Sievers, Sharon L. (1968) ..... Associate Professor, History
B.A., Augustana College; M.A., University of Nebraska; Ph.D., Stanford University.

Simons, Robert M. (1959) ..... Professor, Human Resources Management
B.S., M.B.A., D.B.A., University of Southern California.

Simonsen, Donald H. (1956) ..... Professor, Chemistry
B.A., Reed College; M.A., Oregon State University; Ph.D., Indiana University.

Simonson, Gene R. (1958) ..... Professor, Economics
B.S., University of Wisconsin; M.A., Mexico City College; Ph.D., University of Washington.

Sims, Sidney B., Jr. (1960) ..... Assistant Humanities Librarian
B.A., Baylor University; M.A., University of Denver.

Sinclair, Lorelei P. (1966) ..... Assistant Education Librarian
B.A., Moorhead State College; M.A., University of Minnesota.

Sinclair, William A. (1970) ..... Associate Professor, Physical Education
B.S., M.A., Ph.D., University of New Mexico.

Sindelar, Ronald C. (1966) ..... Associate Professor, Music
B.M., Lawrence University; M.A., Cornell University; D.M.A., Stanford University.

Singer, Barry F. (1968) ..... Associate Professor, Psychology
B.A., Antioch College; Ph.D., University of California, Berkeley.

Skalka, Bernard J. (1967) ..... Assistant Professor, Theatre Arts
B.S., M.A., University of Nebraska.

Skarsten, A. Keith (1956) ..... Professor, English
B.A., M.A., University of Washington; Ph.D., University of Illinois.

Skov, Iva L. (1972) ..... Associate Professor, Economics
B.S., M.A., South Dakota State College; Ph.D., University of Southern California.

Skriletz, Dorothy J. (1959) ..... Professor, Speech Communication
B.S., M.A., Bowling Green State University; Ph.D., Michigan State University.

Slawski, Carl J. (1970) ..... Assistant Professor, Sociology
B.A., University of Southern California; M.A., University of California, Santa Barbara; Ph.D., University of Illinois.

Sleeper, Elbert L. (1957) ..... Professor, Entomology
B.S., M.S., Ph.D., Ohio State University.

Smith, Alton H. (1957) ..... Professor, Mathematics
B.A., George Pepperdine College; M.A., Ph.D., University of Southern California.

Smith, Donald H. (1960) ..... Professor, Industrial Education
B.A., M.A., California State University, Long Beach; Ed.D., University of California, Los Angeles.

Smith, Earl M. (1968) ..... Professor, Industrial Education
B.A., M.A., California State University, Long Beach; Ed.D., University of California, Los Angeles.

Smith, Judy (1975) ..... Lecturer, Nursing
B.S.N., M.N., University of California, Los Angeles.

Smith, Nancy (1977) ..... Lecturer, Nursing
B.S.N., M.S., California State University, Long Beach.

Smith, Peggy J. (1968) ..... Associate Professor, Sociology
B.A., Washington State University; Ph.D., University of California, Irvine.

Smith, Robert J. (1966) ..... Associate Professor, Management
B.S., California State University, Los Angeles; M.S., California State University, Long Beach; Ph.D., University of California, Irvine.

Smith, Rutha Lee (1976) ..... Lecturer, Elementary Education
B.S., Alcorn State University, Mississippi; M.E., University of Mississippi; Ph.D., Northwestern University.

Smith, Sara W. (1969) ..... Associate Professor, Psychology
B.A., Wheaton College; Ph.D., University of Illinois.

Smith, T. William (1969) ..... Associate Professor, Theatre Arts
B.A., M.A., University of North Carolina.

Smoke, Mary E. (1965) ..... Associate Professor, Mathematics
B.S., American University, Washington, D.C.; M.S., Ph.D., Stanford University.

Snidecor, John C. (1969) ..... Associate Professor, Art
B.A., M.A., California State University, Long Beach.

Snider, Larry (1970) ..... Assistant Director, Library Support Systems
B.A., M.S.L.S., University of Southern California.

Soe, Christian (1967) ..... Associate Professor, Political Science
B.A., University of British Columbia; Doktor der Philosophie, Free University of Berlin.

Somadhi, Kakwasi (1977) ..... Lecturer, Language Skills
B.A., University of California, Los Angeles; M.A., Goddard College.

Sorensen, Alfred (1975) ..... Lecturer, Electrical Engineering
B.S., M.S., California State University, Long Beach; E.E., University of Southern California.

Souter, Edward B. (1965) ..... Associate Professor, Physical Education
B.A., M.A., California State University, Long Beach.

Spadaro, Robert N. (1977) ..... Associate Professor, Public Policy and Administration
B.A., Pennsylvania State University; M.A., University of Pennsylvania; Ph.D., University of Georgia.

Spangler, George A. (1971) ..... Associate Professor, Philosophy
B.A., Pennsylvania State University; M.A., University of Nebraska; Ph.D., University of Alberta.

Splese, Richard D. (1967) ..... Associate Professor, English
B.A., M.A., Pennsylvania State University; Ph.D., University of New Mexico.

Spiller, Richard (1969) ..... Professor, Marketing
B.S., Syracuse University; M.B.A., Ph.D., University of California, Los Angeles.

Splansky, Joel B. (1969) ..... Associate Professor, Geography
B.A., M.A., Ph.D., University of California, Los Angeles.

Springer, Arnold R. (1968) ..... Associate Professor, History
B.A., Ph.D., University of California, Los Angeles.

Spyers-Duran, Peter (1976) ..... Director, University Library
M.A., University of Chicago; Ed.D., Nova University, Florida.

Ssensalo, Bede (1977) ..... Lecturer, Black Studies
B.A., Makerere University, Uganda; M.A., Ph.D., University of California, Los Angeles.

Stambaugh, Steven M. (1977) ..... Lecturer, Human Resources Management
B.S., M.S., California State University, Long Beach.

Stanger, Norman R. (1971) ..... Professor, Vocational Education
B.A., University of California, Santa Barbara; M.S.Ed., University of Southern California; Ed.D., University of California, Los Angeles.

Stanton, Roger R. (1966) ..... Professor, Management
B.S., San Jose State University; M.B.A., California State University, Long Beach; D.B.A., University of Southern California.

Stark, Margaret V. (1971) ..... Lecturer, Special Programs
B.A., University of Oklahoma; M.A., University of Minnesota; Ph.D., Indiana University.

Steele, Linda M. (1973) ..... Head, Interlibrary Loan Librarian
B.A., University of Mississippi; M.A., University of Iowa.

Stefani, Raymond T. (1971) ..... Professor, Electrical Engineering
B.S., Notre Dame University; M.S., Ph.D., University of Arizona.

Stein, James D. (1975) ..... Associate Professor, Mathematics
B.A., Yale University; M.A., Ph.D., University of California, Berkeley.

Stein, Meyer L. (1974) ..... Professor, Journalism
B.J., University of Missouri; M.A., Stanford University.

Steiner, Barry H. (1968) ..... Associate Professor, Political Science
B.A., University of Southern California; Ph.D., Columbia University.

Steiner, W. Rodney (1956) ..... Professor, Geography
B.A., M.A., University of California, Los Angeles; Ph.D., University of Washington.

Stephens, Lee B., Jr. (1962) ..... Professor, Biology
B.S., Morehouse College, Atlanta, Georgia; M.S., Atlanta University; Ph.D., State University of Iowa.

Stern, Andrew (1967) ..... Associate Professor, Economics
B.A., M.A., New York University; Ph.D., Columbia University.

Stern, John H. (1958) ..... Professor, Chemistry
B.S., University of California, Berkeley; M.S., Ph.D., University of Washington.

Sternbach, Joseph (1976) ..... Lecturer, Accounting
B.S.S., M.B.A., College of the City of New York; Ph.D., New York University.

Stetler, Charles E. (1967) ..... Professor, English
B.A., M.A., Duquesne University; Ph.D., Tulane University.

Stevens, Alden J. (1968) ..... Associate Professor, Political Science
Associate Dean, School of Social and Behavioral Sciences
B.S., Brigham Young University; M.A., Ph.D., University of Maryland.

Stevens, Thomas G. (1973) ..... Counselor
B.A., University of Oklahoma; M.Th., Claremont School of Theology; M.A., California State University, Fullerton; Ph.D., University of Hawaii. Licensed Psychologist.

Stinson, Perri J. (1969) ..... Professor, Quantitative Systems
B.A., University of California, Santa Barbara; M.S., Ph.D., Oklahoma State University.

Stiver, Harry E., Jr. (1964) ..... Professor, Theatre Arts
B.A., Hastings College, Hastings, Nebraska; M.A., University of Nebraska; Ph.D., University of Illinois.

Stock, L. Lavonne (1959) ..... Professor, Physical Education
B.A., State University of Iowa; M.S., Ed.D., University of California, Los Angeles.

Stone, Gerald C. (1975) ..... Assistant Professor, Journalism
B.A., M.A., Louisiana State University; Ph.D., Syracuse University.

Stone, Herbert L. (1958) ..... Professor, Accounting, Management
B.S., University of California, Los Angeles; M.S., Arizona State University; C.P.A. Certificate, California-Arizona; D.B.A., University of Southern California.

Strain, Robert E. (1956) ..... Professor, Economics
B.A., University of Wichita; M.Ph., Ph.D., University of Wisconsin.

Strickler, Gerald B. (1958) ..... Professor, Philosophy
B.A., Gettysburg College; B.D., Gettysburg Lutheran Theological Seminary; M.A., New York University; S.T.D., Temple University.

Stroud, W. Paul (1957) ..... Professor, Music
B.S., B.M., State University of Missouri; M.Mus., University of Illinois; D.M.A., University of Southern California.

Stuart, Jack M. (1967) ..... Associate Professor, History
B.A., Brooklyn College; Ph.D., Columbia University.

Stuteville, John R. (1964) ..... Professor, Marketing
B.S., M.A., Ph.D., University of California, Los Angeles.

Sucher, Vivian M. (1962) ..... Professor, Nursing
B.S., University of New Hampshire; M.S., University of California, Los Angeles; M.N., Yale University.

Sugimoto, Roy A. (1969) ..... Associate Professor, Secondary Education
B.A., University of California, Berkeley; M.A., M.S., Ph.D., University of Southern California.

Sullivan, Gerald L. (1968) ..... Associate Professor, English
B.S., General Beadle State College, Madison, South Dakota; M.A., South Dakota University; Ed.D., Colorado State College.

Sullivan, Neil V. (1972) ..... Professor, Educational Administration
B.A., Fitchburg Teachers College; M.A., Columbia University; Ed.D., Harvard University.

Sumner, Robert H. (1977) ..... Medical Officer
B.A., Stanford University; M.D., McGill Medical School, Canada.

Sungu, Sabri, P.E. (1961) ..... Professor, Mechanical Engineering
B.S., University of London; M.S., University of Michigan.

Suttle, Clyde T. (1961) ..... Professor, Accounting
B.S., M.B.A., University of California, Los Angeles; D.B.A., University of Southern California.

Svec, William R. (1964) ..... Professor, History
B.S., Loyola University, Chicago, Illinois; M.A., Northwestern University; Ph.D., University of Texas.

Swan, Robert J. (1964) ..... Professor, Educational Psychology
B.A., University of Michigan; M.A., Ph.D., University of Minnesota.

Swatek, Frank E. (1956) ..... Professor, Microbiology
B.S., San Diego State University; M.A., Ph.D., University of California, Los Angeles.

Swensen, Frederick M. (1961) ..... Professor, French-Italian
B.A., M.A., University of Southern California; Docteur en Philosophie et Lettres, State University of Liege, Belgium.

Swift, Richard H. (1958) ..... Professor, Art
B.A., California State University, Los Angeles; M.F.A., Claremont College.

Swigart, Leslie K. (1971) ..... Assistant Humanities Librarian
B.A., University of Southern California; M.L.S., University of California, Los Angeles.

Tabor, Doris D. (1967) ..... Professor, Elementary Education
B.S., Northwest Missouri State College; M.S., University of Omaha; Ed.D., University of Nebraska.

Takei, Yoshiaki (1973) ..... Coach, Intercollegiate Athletics
B.S., Tokyo University of Education; M.S.T., Georgia Southern College.

Taylor, Charles T. (1960) ..... Head, Education Librarian
B.A., University of California, Los Angeles; M.S. in L.S., University of Southern California.

Taylor, Rosemary (1965) ..... Activities Coordinator
B.A., California State University, Long Beach.

Teel, Kenneth S. (1969) ..... Professor, Human Resources Management
B.A., Ph.D., Washington University.

Tennenbaum, Michael (1969) ..... Associate Professor, Economics
B.A., M.A., Ph.D., University of California, Los Angeles.

Tesfay, Brhane (1977) ..... Lecturer, Marketing
B.A., University of Beirut, Lebanon; M.S., University of Wisconsin; Ph.D., University of California, Los Angeles.

Teweles, Richard J. (1967) ..... Professor, Finance
B.S., M.S., Ph.D., University of Illinois.

Tharp, A.G. (1959) ..... Professor, Chemistry
B.S., University of Kentucky; M.S., Ph.D., Purdue University.

Thayer, Robert E. (1963) ..... Professor, Psychology
B.A., University of Redlands; Ph.D., University of Rochester.

Thomas, Lindsay, Jr. (1961) ..... Professor, French-Italian
B.A., Le Seminaire Adventiste, Savoie, France; B.A., M.A., Boston University; Ph.D., University of California, Los Angeles.

Thompson, Charles M. (1956) ..... Professor, Art
B.S., Lehigh University; B.A., M.A., Art Institute of Chicago; Ed.D., Teachers College, Columbia University.

Thompson, Edgar J. (1973) ..... Associate Professor, Music
B.S., M.S., Brigham Young University; M.A., California State University, Long Beach; Ph.D., University of Utah.

Thompson, Jesse J. (1956) ..... Professor, Communicative Disorders
B.A., University of California, Santa Barbara; M.S., Ph.D., University of Southern California.

Thorson, Joyce G. (1976) ..... Assistant Professor, Recreation
B.A., M.S., University of New Mexico; Ph.D., University of California, Berkeley.

Tillman, Talmadge C., Jr. (1968) ..... Professor, Accounting
B.S., Indiana University; M.B.A., Syracuse University; D.B.A., University of Southern California; C.P.A., California.

Timmons, F. Alan (1954) ..... Professor, Instructional Media
B.A., San Francisco State University; M.A., Ed.D., University of Southern California.

Timpke, Jane L. (1975) ..... Assistant Professor, Nursing
B.S., Lock Haven College, Pennsylvania; M.A., California State University, Long Beach.

Ting, Keh-Ping (1970) ..... Associate Professor, Biology
B.S., Taiwan Provincial Chung Hsing University; Ph.D., University of Alberta, Canada.

Tjioe, Djoe T. (1970) ..... Associate Professor, Biology
B.S., Sioux Falls College; M.S., Ph.D., University of Wisconsin.

Toohey, Dale P. (1972) ..... Associate Professor, Physical Education
B.S., Washington State University; M.Ed., Ed.D., University of Massachusetts.

Toohey, D. Margaret (1974) ..... Assistant Professor, Physical Education
B.S., M.Ed., University of Massachusetts; Ph.D., Ohio State University.

Torby, Bruce J., P.E. (1961) ..... Professor, Mechanical Engineering
B.M.E., City College of New York; M.S., University of California, Los Angeles; Ph.D., University of Southern California.

Torney, John A., III (1957) ..... Professor, Health Science
B.A., University of Washington; M.A., Ed.D., Teachers College, Columbia University.

Torres, Leonard (1956) ..... Professor, Industrial Education
B.A., University of California, Santa Barbara; M.Ed., Oregon State University; Ed.D., Colorado State University.

Torstensson, Hakan (1977) ..... Exchange Assistant Professor, Mechanical Engineering
M.S., Chalmers University of Technology, Sweden.

Towner, Leonard W., Jr. (1955) ..... Professor, Psychology
B.A., M.A., Ph.D., University of California, Berkeley.

Traynor, William J. (1973) ..... Lecturer, Human Resources Management
B.S., United States Naval Academy; M.S., George Washington University; Ed.D., Brigham Young University.

Trevennen, John, Jr. (1952) ..... Information Desk Librarian
B.A., M.S. in L.S., University of Southern California.

Trinidad, Francisco (1962) ..... Professor, Spanish-Portuguese
Bachiller, Instituto Nacional Cisneros, Madrid; A.B., M.A., Ph.D., University of California, Los Angeles.

Trombetas, Thomas P. (1961) ..... Professor, Political Science
Law Degree, University of Athens, Greece; M.P.A., Ph.D., University of Washington.

Trout, Robert G. (1961) ..... Professor, Industrial Education
B.A., M.A., California State University, Long Beach.

Truby, Revonia (1977) ..... Lecturer, Nursing
B.S.N., California State University, Long Beach; M.S.N., California State University, Los Angeles.

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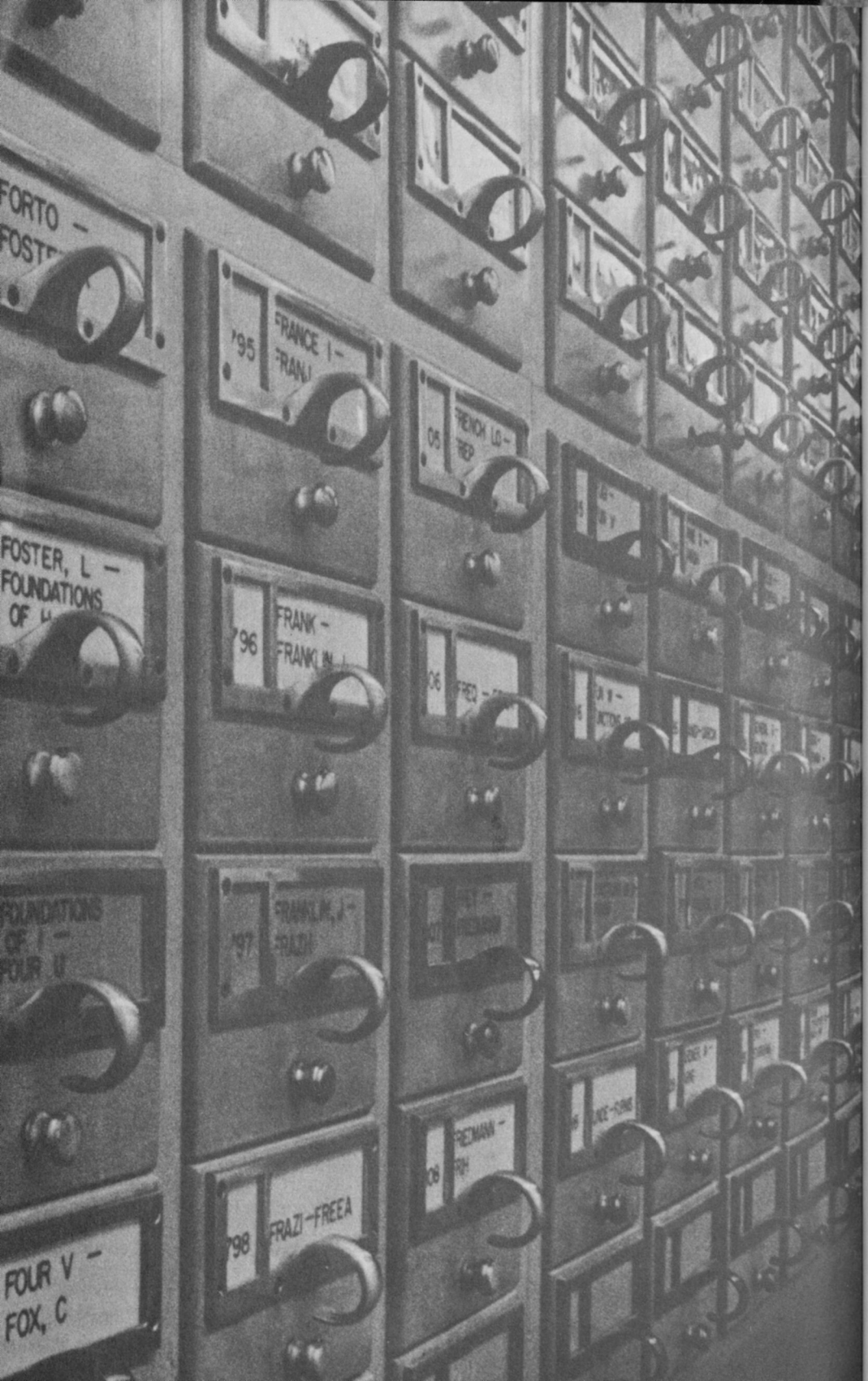

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