

**Undergraduate and Graduate Catalog**

**General Information and  
Announcement of Courses**

1981-1983

The California State University and Colleges

**California State University Long Beach  
Bulletin**

May, 1981

Volume 32, No. 6

1250 Bellflower Boulevard, Long Beach, California 90840  
Telephone, (213) 498-4111

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## Preface

This California State University *Bulletin* is the general catalog of undergraduate and graduate studies for courses, programs and services offered during the 1981-1982 and 1982-1983 academic years as well as summer, winter and special sessions. It contains information about The California State University and Colleges in addition to descriptions of the courses of study and statements of policy about grades, probation, transfer of units, and other matters students will need to know about pursuing undergraduate and graduate degrees at California State University, Long Beach. Since the student is ultimately responsible for his or her own program of studies and for the regulations governing enrollment, residency, and graduation, familiarity with this *Bulletin* is strongly urged.

Advisement on selection of courses and degree majors as well as career counseling is available from a variety of campus offices. The Academic Advising Center and the Office of School Relations will provide initial information about the academic departments. Department offices and the Career Planning and Placement Center provide detailed information on degree programs and career objectives. The Financial Aids office provides information about scholarships, fellowships, and student loan programs.

Prior to each Fall Semester an orientation program for freshmen and transfer students is held at the University. For further details please call the Office of Records and Admissions, (213) 498-4141.

Visitors parking is available at a commercial parking facility adjacent to the campus on Seventh Street and, on a limited basis, near the Student Services/Administration Building.

California State University, Long Beach, is committed and obligated by State and Federal laws to extend equal employment and educational opportunity and to take affirmative action to enhance its diversity. The rights of its employees and students are protected by Executive Order 11246 as amended, Revised Order No. 4, Section 504 of the Rehabilitation Act of 1973, Title IX of the Educational Amendments, and the Vietnam-Era Veterans Readjustment Act. Complaints may be registered with the University Affirmative Action Committee which allege discriminatory acts or decisions in cases where such acts or decisions are not subject to other grievance, disciplinary action, or grade appeal procedures. Inquiries concerning the application of these nondiscrimination and affirmative action statutes may be referred to the University Affirmative Action Coordinator at (213) 498-5571 or 1250 Bellflower Boulevard, Long Beach, California 90840.

Preparation of the *Bulletin* is under the direction of Dr. John S. Haller, Jr., Associate Vice President for Academic Affairs. The Production Manager is Dr. James R. Brett, and the production staff are Barbara Parks, Editor, and Carol Hendricks, Composer. Cover design and photography by University Publications.



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- May 17-22 . . . . . Final examinations.
- May 25-27 . . . . . Commencements.
- May 27 . . . . . End of spring semester. End of academic year.
- May 31 . . . . . Memorial Day-holiday.

**Summer Sessions, 1982**

- First Session . . . . . June 7-July 16
- Second Session . . . . . June 21-July 30
- Third Session . . . . . July 19-August 27

**1982-83 Calendar**

**Fall Semester, 1982**

- August 30 . . . . . Beginning of fall semester.
- Aug. 30-Sept. 3 . . . . . Completion of Registration. Refer to *Schedule of Classes*.
- September 7 . . . . . Instruction begins.
- September 7 . . . . . Late registration and change of program.
- September 6 . . . . . Labor Day-holiday.
- November 11 . . . . . Veteran's Day — campus open.
- November 25-26 . . . . . Thanksgiving recess.
- December 10 . . . . . Last day of instruction.
- December 13-18 . . . . . Final examinations.
- December 19 . . . . . Christmas recess begins.
- December 22 . . . . . End of fall semester.

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**Winter Session, 1983**

- January 3-21

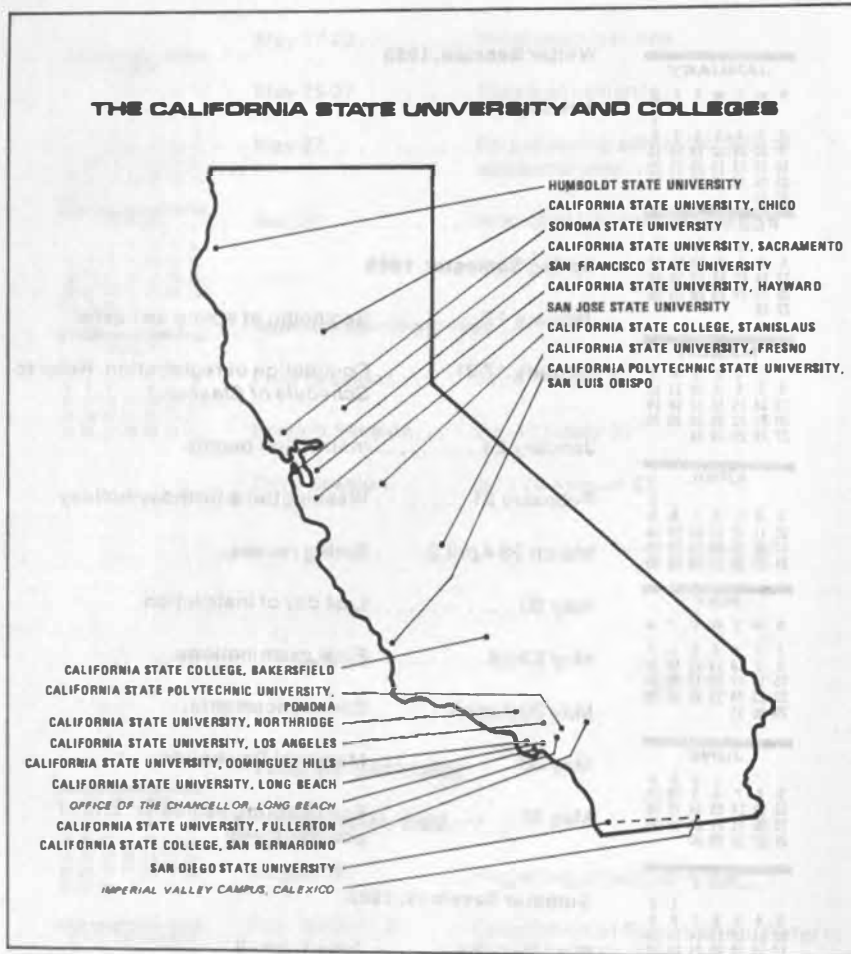
**Spring Semester, 1983**

- January 17 . . . . . Beginning of spring semester.
- January 17-21 . . . . . Completion of registration. Refer to *Schedule of Classes*.
- January 24 . . . . . Instruction begins.
- February 21 . . . . . Washington's Birthday-holiday.
- March 28-April 2 . . . . . Spring recess.
- May 20 . . . . . Last day of instruction.
- May 23-28 . . . . . Final examinations.
- May 30-June 1 . . . . . Commencements.
- May 30 . . . . . Memorial Day-holiday.
- May 31 . . . . . End of spring semester. End of academic year.

**Summer Sessions, 1983**

- First Session . . . . . June 1-July 8
- Second Session . . . . . June 13-July 22
- Third Session . . . . . July 11-August 19

# 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. Today, 16 of the 19 campuses have the title "University."

The oldest campus — San Jose State University — was founded as a Normal School 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 system wide 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.

The CSUC offers more than 1,400 bachelor's and master's degree programs in some 200 subject areas. Approximately 350 of these programs are offered so that students can complete all upper-division and graduate requirements by part-time late afternoon and evening study. In addition, a variety of teaching and school service credential programs are available. A limited number of doctoral degrees are offered jointly with the University of California and with private institutions in California.

The Consortium of the CSUC draws on the resources of the 19 campuses to offer regional and statewide off-campus degree, certificate, and credential programs to individuals who find it difficult or impossible to attend classes on a campus. In addition to Consortium programs, individual campuses also offer external degree programs.

Enrollments in fall 1980 totaled over 300,000 students, who were taught by a faculty of 18,000. Last year the system awarded over 52 percent of the bachelor's degrees and 32 percent of the master's degrees granted in California. Almost 800,000 persons have been graduated from the 19 campuses since 1960.

**TWENTY YEARS OF SERVICE TO CALIFORNIA**  
**1961-1981**

**CSUC/20**

**The California State University and Colleges**

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The Honorable Willie L. Brown, Jr. Speaker of the Assembly	State Capitol Sacramento 95814
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Dr. Glenn S. Dumke Chancellor of The California State University and Colleges	400 Golden Shore Long Beach 90802

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\* Appointment is subject to confirmation by the State Senate.

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

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Mr. Harry Harmon	Executive Vice Chancellor
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Dr. Robert Tyndall	Acting Vice Chancellor, Faculty and Staff Affairs
Mr. Mayer Chapman	General Counsel



## The California State University and Colleges

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Northridge, California 91330  
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Sacramento, California 95819  
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San Bernardino, California 92407  
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San Diego, California 92182  
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Calxico, California 92231  
714 357-3721

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San Francisco, California 94132  
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San Jose, California 95192  
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707 664-2880

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Turlock, California 95380  
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209 633-2122

## CSULB Advisory Board

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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Vice President for Student Affairs	John W. Shainline
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Foundation Business Manager	William B. Haifley

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Dean, School of Education	John A. Nelson, Jr.
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Director of Extended Education	Irvin T. Lathrop
Director of Research	Vacant
Director, Southern California Ocean Studies Consortium	Vacant
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Associate Director	Lloyd A. Kramer
Director of Learning Resources	Robert Rheinisch
Director of Educational Resources Planning	Ronald A. Lee
Associate Director — Planning	Richard R. Timboe
Scheduling Coordinator	David Pylman
Test Officer	William P. Abbott

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Admissions Officer	George W. La Due
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Director of Plant Operations	William A. Peters
Associate Director	Stuart Venable
Director of Staff Personnel	Betty Jane Long
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Director, Public Affairs	Robert H. Breunig
Director, Publications	Susan Seyferth

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Assistant to Business Manager	Edward C. Ball
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Controller	Earl R. Milton
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Director of Student Aid Accounting	Suzanne Sahlie
Director of Payroll	Kay Griffith-Miller
Director of Automatic Data Processing and Information Services	Ronald Langley
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Director of Purchasing	Vacant
Director of Support Services	Cromwell Williams
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Director, Student Activities	Kathryn Goddard
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Director, Career Planning and Placement Center	H. Edward Babbush
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Coordinator, Learning Assistance Center	Frank Christ
Coordinator, Veterans Affairs	Frank Noffke
Coordinator, Adult Reentry	Ken Caillet
Coordinator, Explorations in Communications	Marri Taylor Brennan
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Director, Sports, Athletics, and Recreation	Perry C. Moore
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Bookstore Manager, Forty-Niner Shops	Carlos Silva
Food Service Director, Forty-Niner Shops	Douglas Richie
Accounting Manager, Forty-Niner Shops	Barbara Parrish
Business Manager, Associated Students	David Page

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Associate Dean	Vacant

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 Health Science . . . . . Peter Cortese  
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 Management and Human Resources Management . . . . . Robert Smith  
 Marketing . . . . . Robert T. Holmes  
 Quantitative Systems . . . . . Lincoln Chao  
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   Administration . . . . . Russel Orpet  
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   Instructional Media . . . . . Richard J. Johnson  
 School of Engineering . . . . . Richard C. Potter  
   Associate Dean . . . . . Willard H. Reed  
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 School of Humanities . . . . . Ronald L. Applbaum  
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   American Studies . . . . . Nancy Weiss  
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   Comparative Literature . . . . . Thomas Hubble  
   English . . . . . Charles May  
   French/Italian . . . . . Frederick M. Swensen  
   German, Russian and Classics . . . . . Dorothy Skriletz  
   Journalism . . . . . Ben Cunningham  
   Linguistics Program . . . . . Janet B. Sawyer  
   Mathematics . . . . . Arthur P. Gittleman  
   Medieval and Renaissance Studies . . . . . Charles Jernigan  
   Mediterranean Studies . . . . . Raymond McKay  
   Philosophy . . . . . William M. Johnson  
   Radio-TV . . . . . Robert G. Finney

Religious Studies . . . . . Robert Eisenman  
 Spanish/Portuguese . . . . . Beverly DeLong-Tonelli  
 Speech Communication . . . . . Richard Porter  
 School of Natural Sciences . . . . . Roger D. Bauer  
   Associate Dean . . . . . Lee B. Stephens  
   Administrative Assistant . . . . . R.B. Evans  
   Administrative Assistant, Safety & Outreach . . . . . Michael Schaad  
   Associate Dean, Student Services . . . . . Roland Kerr  
   Pre-Professional Office . . . . . Sue Hiller  
   Science Education . . . . . William C. Ritz  
 Biology . . . . . Larry Leamy  
 Chemistry . . . . . Kenneth L. Marsi  
 Center for Environmental Studies . . . . . Roswitha Grannell  
 Geological Sciences . . . . . Paul J. Fritts  
 Microbiology . . . . . Frank E. Swatek  
 Physics-Astronomy . . . . . S.I. Salem  
 School of Social and Behavioral Sciences . . . . . Fen Rhodes  
   Associate Dean, Educational Policy . . . . . Keith I. Polakoff  
   Associate Dean, Instructional Support . . . . . Vacant  
   Associate Dean, Student Services . . . . . Rosemary Taylor  
   Research Coordinator . . . . . Candace Yamagawa  
 American Indian Studies . . . . . Richard W. Band  
 Anthropology . . . . . Eleanor Bates  
 Asian American Studies . . . . . Lloyd Inui  
 Asian Studies . . . . . Charlotte Furth  
 Black Studies . . . . . Jim Robinson  
 Computer Studies . . . . . Glenn Walker  
 Economics . . . . . Elbert W. Segelhorst  
 Foreign Student Program . . . . . Russell Lindquist  
 Geography . . . . . Rodney Steiner  
 History . . . . . Jack M. Stuart  
 Human Development Program . . . . . Norma Tarrow  
 Legal Studies in the Liberal Arts . . . . . Albie Burke  
 Mexican American Studies . . . . . Genevieve Ramirez  
 Political Science . . . . . Leroy C. Hardy  
 Psychology . . . . . Sally Haralson  
 Russian-East European Studies Program . . . . . George Kacewicz  
 Social Work . . . . . Isaiah Chong-Pie Lee  
 Sociology . . . . . Vacant  
 Urban Studies Program . . . . . Margaret Stark  
 Women's Studies Program . . . . . Sondra Hale

Center for Public Policy and Administration . . . . . Melchior D. Powell  
 Assistant Director of Support Services . . . . . William C. Manes





# 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 mission of California State University, Long Beach is to provide instruction through the master's degree in the liberal arts and sciences, in applied fields, and in the professions. This mission is accomplished by offering 67 degree programs at the baccalaureate level, and 50 degree programs at the post-baccalaureate level by the schools of Applied Arts and Sciences, Business Administration, Education, Engineering, Fine Arts, Humanities, Natural Sciences, Social and Behavioral Sciences, and the Center for Public Policy and Administration.

The University provides instruction in the applied fields and in the professions by maintaining an appropriate balance with the liberal arts and sciences. The liberal arts and sciences are the academic core of the University. These fields provide instruction in the basic skills necessary for advanced training, and the academic foundation necessary to acquire philosophical, analytical, empirical, historical, and applied knowledge. Post-baccalaureate instruction is equally important to the mission of the University. Such instruction provides access to advanced learning at minimal cost to men and women already engaged in occupational pursuits, and to members of minority groups whose access to graduate instruction would be limited without state support. Such instruction also enables the faculty to conduct

advanced research in their specialized fields which assists them to acquire and impart new knowledge which, in turn, assists them to improve the academic quality of instruction at the University.

## 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)	Engineers' Council for Professional Development (Civil, Computer, Electrical, Materials, Mechanical, Ocean)
Environmental Factors: Interiors (Home Economics)	Foundation for Interior Design Education Research
Home Economics	American Home Economics Association
Interior Design (Art)	Foundation for Interior Design Education Research
Journalism	American Council on Education for Journalism
Music	National Association of Schools of Music
Nursing	National League for Nursing
Physical Therapy	American Physical Therapy Association
Social Welfare	Council on Social Work Education
Theatre Arts	National Association of Schools of Theatre

## University Auxiliary Organizations

### University Foundation

The California State University, Long Beach Foundation is a nonprofit, tax-exempt corporation organized to administer grants and contracts for research and other activities related to the University's programs. The Foundation also accepts donations, gifts and bequests for University-related use, and provides tax-deductible advantage to the donor.

The research and other activities involving the Foundation are related directly to the academic program. They 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 accomplished with private contributions such as scholarships and the support of 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), the Isabel Patterson Child Development Center and the Earl and Lorraine Miller Japanese Garden are outstanding examples of such donations.

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 the University 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 Development 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 represents more than 85,000 graduates. 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 extended education programs; 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.

Association membership funds provide emergency loans to current students, scholarships, research grants to faculty and development of special programs.

### The Forty-Niner Shops

The Bookstore sells textbooks, reference and popular books, stationery supplies, and a large variety of miscellaneous items. The University Food Service, composed of the main cafeteria, residence hall cafeteria and University Union food service, provides food service for the entire University. The Forty-Niner Shops, Inc. operates both facilities as a nonprofit corporation with faculty, student and administrative representation on its Board of Directors.

## University 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 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

Housed in a modern six-story building with over 300,000 square feet of space, the Library contains over 1.9 million bibliographic items. The book collection is supplemented by bound periodicals, art prints, slides, phonograph records, nearly a million microtexts, many educational filmstrips, video tapes, mixed media programs, and maps. The Library also possesses a number of outstanding research collections, especially in comprehensive reference materials for art history, humanities, law, music, science, and social sciences. Special collections and archives include extensive holdings on the Abolition Movement and the early history of California. Among California authors collected, Robinson Jeffers is represented by a notably complete gathering of first editions, private printings, manuscripts and ephemera as well as anthology appearances and criticism. Legislators Vincent Thomas, Mark Hannaford and Richard Hanna have donated papers and files to the Library covering their years of public service. The Library has also developed extensive holdings on radicalism in Southern California centering on the political activities of Dorothy Healey. Original art works, photographic prints, and specimens of early printing round out the scope of this growing research department.

The Library is divided into four major subject areas and departments: Education, Humanities, Social Sciences/Business, and Science and Technology. Each of these departments is staffed by librarians who are subject specialists and work with the reference and circulating collections located in the respective departments. The Information Desk on the first floor is also staffed by librarians who will give bibliographic assistance, general orientation to the Library collection and facilities, reference to appropriate subject reference departments for special assistance, and provide an extensive outreach library instruction program.

Other library services include computer bibliographic searching, copying machines, microtext facilities, group study rooms, and a visual and audio media resources library.

Faculty, graduate, and undergraduate students have access to the Library's national and international interlibrary loan service with special privileges with the 18 other campuses of The California State University and Colleges System as well as with the University of California System. The Library is a member of the Center for Research Libraries and has full access to its collection of over 3 million volumes of material important for research.

The library is a depository for Federal, State, and local government documents.

### Graduate Center

The University has established the Graduate Center to facilitate greater dialogue among graduate students, faculty, and interested persons and groups of the community. Dedicated on May 20, 1974 by Robert Maynard Hutchins, the distinguished educational philosopher and leader, the Graduate Center functions as a focal point for scholarly and creative activities, as a reception center for honored guests of the University, as a facility for the presentation of special lectures and seminars, and as a gallery for showing student and professional art exhibits.

### 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 Sports Haus 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 lounge/luncheon area for faculty, staff and students. It is available to groups for meetings and dinners in the late afternoon and weekends.

### 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. Students only may apply for a sliding fee scale.

The Center provides day care for 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 summer sessions.

The Center employs professional staff members and students who are studying child development and early childhood education. A summer day camp program is available during the summer for elementary age children.

The Center is located in the northwest corner of campus on Atherton. For information call (213) 498-5333.

### 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 lounges, 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.

## Cultural & Recreational Opportunities

### 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. and 5-8 p.m. Monday-Thursday; 12-4 p.m. 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 (213) 498-5526 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. Visa and Mastercard are honored.

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 and a performance of student choreography. 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.

The Earl and Lorraine Miller Japanese Garden, established with a \$350,000 gift from the Earl Burns and Lorraine H. Miller Foundation, was recently completed. Principal features include a traditional entry gate, teahouse, waterfalls, a pond and two bridges. Bamboo, pines, azaleas and other plantings create a place of quiet repose and cultural interest for students, staff, the community and their children. The Garden is the focal point of the University Arboretum which covers 15 acres in the northwest section of the campus.

### 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 the Director of Weekend and Evening Recreation Program, (213) 498-4093, (Office: P.E. 326).

## University Services

### Vice President for Student Services

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

The Student Services 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 Services; 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 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, 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 Services, 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.

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The Office of Student Affairs provides assistance to students with crises, general information, emergencies, accidents, referrals and grievances. The Assistant Vice President, Student Services 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 "Forty-Niner Student Handbook," the "Campus Policies, Information and Regulations," the Judicial Affairs Handbook and 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 graduates. This information includes data concerning average star-

ting 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 H. Edward Babbush, Director of Career Planning and Placement, 1250 Bellflower Blvd., Long Beach, CA. 90840. 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

Located in the University Library, First Floor, East Wing, the Learning Assistance Center is a support service that seeks to help students increase the efficiency and effectiveness of their learning. Housing personal learning skills specialists and 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, it is accessible nearly 65 hours weekly.

The Learning Assistance Center serves:

1. learners who want to improve, acquire, review, or maintain personal learning skills. Personal learning skills include time management, task organizational skills, memory, concentration, reading speed, flexibility, comprehension and retention, and computational skills.
2. students whose professors have provided for them course material so that learning can occur with the students choosing place, time, and pace.
3. students who need help to master facts or concepts that give them difficulty in their textbooks or lectures.
4. students who want to prepare for such standardized tests as the Medical College Admission, Law School Admission, Undergraduate Record Exam, Graduate Record Exam, Graduate Management Admission Test, and the National Teacher Exam.
5. international students who wish to improve their conversational command of the American language.
6. any student who needs tutorial help.

For further information phone: 498-5350 or 498-4192, or visit the Center.

**Group Explorations in Communication**

This outreach program offers members of the University community an opportunity to meet in small developmental groups. Focus is on communication enrichment, skills training and personal growth. Office: FO2-229. Phone: 498-4893 or 498-4001.

**Veterans Affairs Office**

The Veterans Affairs Office serves as a clearinghouse of services and information for the CSULB student veteran or dependent. Here a student may initiate a request for veterans' benefits, receive information regarding these benefits, and get help with problems involving the Veterans Administration. Short term loans are available to students in temporary financial need. The office coordinates a VA work study program. (For further information on veteran's benefits, short term loans, and VA work study, see the Financial Aid section of this Bulletin.) Also available through this office are tutorial services, learning assistance, and a career information library. The office mails a newsletter to veterans to keep them informed of news of importance to them.

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 7:30 a.m. to 6 p.m. weekdays. Phone: 498-5436.

**Adult Reentry Counseling and Development Office**

Adults who are considering entering the University are encouraged to utilize the services of the Adult Reentry Counseling and Development Office in the Counseling and Human Development Center. Opportunity is given to explore various options concerning majors, graduate work, or specialized programs.

Assistance is provided the adult student in his/her attempt to define and attain goals of both a learning and developmental nature. Special assistance is offered to women who are either beginning their college work or reentering the University after a prolonged absence. 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 various counseling services offered.

Services to currently enrolled students consist of providing professional counseling, both on an individual and group basis, in the following areas: academic, career, developmental, marriage and family, and personal. Focus is on concerns related to changing role, identity, mid-life crisis, and/or career change.

For additional information or to make an appointment, please contact the Adult Reentry Counseling and Development Office. 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.

**Disabled Student Services**

The Disabled Student Services office provides services, programs and activities for use by all disabled students and faculty of the University or visitors. Services include priority registration, registration assistance, fee authorizations from the Department of Rehabilitation, special parking, change of classrooms to accessible locations, counseling and advisement, special adaptive equipment, liaison with faculty and staff, readers and attendant lists, emergency wheelchair loan and minor repair, referral to on-campus and off-campus resources, extra-curricular activities and job and career placement. Also, interpreter, reader and note taker services are available to qualified disabled students.

Special orientation tours of the campus are available to the disabled student by appointment. All services also are offered to students with temporary disabilities. Further information is available from the Disabled Student Services office, 498-5401, and TTY 498-5426 for the hearing impaired.

**Student Health**

The Student Health Service, located on State University Drive near the Residence Halls (phone 498-4771), provides outpatient care for acute illness or injury. This basic 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 any time. Medical emergencies arising on campus when the Health Service is closed are directed to the Department of Public Safety (phone 498-4101).

Other medical services provided by the Student Health Service include health and psychiatric counseling, immunizations, laboratory tests, x-rays, physical therapy and family planning, including pap smears. Specialty consultant services include gynecology, dermatology, psychiatry, orthopedics and minor surgery. Provision is also made for outside referrals in other medical specialties. In addition to basic medical service provided at no charge, elective physical examinations are performed for a nominal fee.

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

Health education programs designed to promote good health practices, disease prevention, proper nutrition and appropriate self care of illnesses are provided on a regular basis. Discussion groups will be scheduled to discuss any health topics of concern to a group of students.

A Health History form must be completed by each new student. The Health History will be kept in the Student Health Service in secure confidential files.

The Student Health Service provides a procedure to evaluate requests for medical withdrawal from the University. For further information see Item 4 in this Bulletin under "Withdrawal from Classes or the University."

The Student Health Service is unable to provide prolonged medical care for chronic disorders or for disorders that require hospitalization and extensive evaluation.

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 \$1,900-\$2,100, 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 a very limited number of applications for spring-only are accepted after September 1 of the preceding year.

Applications for available residence hall space are accepted on a first-come, first-served basis and students are urged to submit their applications promptly.

### 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 Education Center

The University attracts many students from other countries because of its quality programs and also encourages American students to participate in 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. At present there are over 2,800 students from over 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 to aid foreign students with their educational and social progress while in the U.S. Students consult with counselors on a variety of educational problems: selection or change of academic major, 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. Counselors help with students' personal problems which frequently include finances and employment (which involve legal restrictions), relations with other students and professors, ethical, cultural or moral issues and anxieties regarding personal and interpersonal development. Problems of health and legal difficulties are referred to sources of specialized assistance in and outside the University.

International students should review courses listed under International Student Programs. (School of Social and Behavioral Sciences for FOR courses and School of Humanities for American Language Program). This is especially important for American English and General Education requirements. A booklet, "Planning your College Education," is available in the International Education Center.

#### Administrative Services

The Center assists foreign students and scholars in complying with regulations of the U.S. Immigration and Naturalization Service by providing official documentation and verification for extension of stay, student status and certificates to permit foreign students to return to the U.S. after leaving the country. The Center issues letters of student standing for Consulates and Embassies, and requests for release of foreign currencies to support students.

In assisting students to comply with Immigration regulations, the International Education Center provides services only to those students who are applying for regular admission to the University or who have been regularly admitted and enrolled (see Admission to the University, International (foreign) students). Enrollment in courses through Extended Education does not constitute admission to the University but this may be counted as part of "a full course of study" for purposes of maintaining a valid student status under immigration regulations only when approved in advance by the Director or Assistant Director, International Education Center, SS/Adm. 204.

#### Community Relations

The staff and a group of volunteers from the International Community Council of Greater Long Beach assist the Center, nationality groups and the International Students Committee with a variety of programs. Community assistance is given to students to find suitable living accommodations, often with families. Educational, social, cultural and recreational programs are sponsored to assist in the development of cross-cultural awareness and understanding.

#### 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 (Plaza Level, University Student Union)

The Student Activities Office offers program advice to campus clubs and organizations and to the Associated Students.

The four 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 Banjo, Fiddle and Guitar 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 Activities Office is interested in developing programs which meet the co-curricular needs of all campus community. 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, the Cooperative Education Program or the Summer Internship 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, Cooperative Education and Summer Internship 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 Experiential Learning 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.

Field experience classes are available. For course description see Experiential Learning Section of this *Bulletin*.

### Summer Internships

The Summer Internship Program offers students the opportunity to gain career or academic related experience during the summer break. Summer placements are paid, full-time positions and are available locally or nationally. Internships are available to all majors.

### 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 broadcasting. Managed by student directors, the station is advised by the faculty of the Departments of Radio-Television and Journalism, and members of the Long Beach community. It is funded by the School of Humanities, Associated Students and outside sources. KSUL offers a variety format. With its transmitter located in downtown Long Beach, KSUL has a potential audience in excess of 500,000. 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, Talent Search 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, Reading Development 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.

### Talent Search/Educational Information Services

The Talent Search/Educational Information Services program provides college advisement for low income youth residing in the greater Long Beach area. Professional and student counselors are stationed at local target high schools and community colleges to provide assistance to students in choosing an appropriate post-secondary educational institution, applying for admission and completing financial aid application materials.



### 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.

# Admission to the University

### School Relations Office

The School Relations Office provides information about the University and its academic programs to educators, counselors and prospective students. The School Relations staff are available to visit high schools 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. Prospective students desiring literature on academic majors should write or call the School Relations Office.

### Admissions Procedures and Policies

Requirements for admission to California State University, Long Beach are in accordance with Title 5, Chapter 1, Subchapter 3, of the *California Administrative Code*. Prospective applicants who are not sure of these requirements are encouraged to consult a high school or community college counselor or the Admissions Office. Applications may be obtained from the Admissions Office at any of the campuses of The California State University and Colleges or at any California high school or community college.

### Undergraduate Application Procedures

Prospective undergraduates, whether applying for part-time or full-time programs of study, in day or evening classes, must file a complete application as described in the application booklet. The \$25 nonrefundable application fee should be in the form of a check or money order payable to The California State University and Colleges and may not be transferred or used to apply to another term. Undergraduate applicants need file only at their first choice campus. An alternative choice campus and major may be indicated on the application, but *applicants should list as alternative campus only that campus of The California State University and Colleges that they can attend*. Generally, an alternative degree major will be considered at the first choice campus before an application is redirected to an alternative choice campus. Applicants will be considered automatically at the alternative choice campus if the first choice campus cannot accommodate them.

### Impacted Programs

Impacted programs are those in which the number of applications received in the first month of the filing period exceed the total spaces available, either locally (at an individual campus) or systemwide. You must make application for an impacted program during the first month of the filing period and may file more than one application and fee. Nonresidents, foreign or domestic, usually are not considered

for admission to impacted programs. High school and community college counselors are advised prior to the opening of the fall filing period which programs will be impacted.

#### Supplementary Admission Criteria

Each campus with impacted programs uses supplementary admissions criteria in screening applicants. Effective with the fall 1980 filing period campuses are authorized to use a freshman applicant's ranking on the eligibility index, the transfer applicant's overall GPA, or a combination of campus-developed supplementary criteria in selecting those to be admitted. If you are a freshman applicant and plan to apply to an impacted program, you should take the ACT or SAT test at the earliest date. Your test scores and your grades earned in the final three years of high school may be used in determining admission to the program. The supplementary admission criteria used by the individual campuses to screen applicants appear periodically in the *Counselors Digest* and are sent by the campuses to all applicants seeking admission to an impacted program.

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 alternative major either at the first choice campus or another campus.

#### 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. A complete application for post-baccalaureate status includes all of the materials required for undergraduate applicants (Part A) plus the supplementary graduate admissions application (Part B). Post-baccalaureate applicants who completed undergraduate degree requirements and graduated the preceding term are also required to complete and submit an application and the \$25 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.

#### Application Filing Periods

Terms in 1981-82	First Accepted	Filing Period Duration	Student Notification Begins
Summer Qtr. 1981	Feb. 1, 1981	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 1981
Fall Sem. or Qtr. 1981	Nov. 1, 1980		Dec. 1980
Winter Qtr. 1982	June 1, 1981		July 1981
Spring Sem. or Qtr. 1982	Aug. 1, 1981		Sept. 1981

#### 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, not counting physical education and military science; and the ACT composite, or the SAT total score. The table of grade point averages, with corresponding test scores and the equation by which the index is computed, is reproduced on page 43.

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 414  
Iowa City, Iowa 52240

#### SAT Address

The College Board  
Box 592  
Princeton, New Jersey 08541

#### 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 need a minimum eligibility index of 741 (ACT) or 3072 (SAT). The following table illustrates grade point averages and scores needed to qualify for admission.

#### Excerpts from Admissions Eligibility Table for California High School Graduates

	2.00†	2.20	2.40	2.60	2.80	3.00	3.20‡
GPA							
ACT score	35	31	27	23	19	15	11
SAT Score	1472	1312	1152	992	832	672	512

† Below 2.00 not eligible.

‡ Above 3.20 exempt from test requirements.

#### Early Admission Commitment

Applicants presenting a minimum grade point average of 3.75 in all course work completed in the tenth and eleventh grades of high school, except military science and physical education, may be advised of their admission status prior to completion of the seventh semester of high school.

#### First-Time Freshman Applicants (Nonresident)

Applicants who are neither residents for tuition purposes nor graduates of a California high school need a minimum eligibility index of 826 (ACT) or 3402 (SAT).

**First-Time Freshmen Applicants (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 Applicants (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 is such that the campus believes promise of academic success is equivalent to that of eligible California high school graduates.

**Undergraduate Transfer Applicants (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 institution attended may be admitted as undergraduate transfers if they meet either of the following requirements:

1. Eligible for admission in freshmen standing (see 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.

**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.

**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 minimum TOEFL score of 500, a medical certificate of health, and evidence of financial resources adequate to provide for all expenses (approximately \$750 United States currency per month) during the period that they expect to be registered as a student in the University.

Among citizens of other countries than the U.S. who do not already hold status as Permanent Resident Aliens (Form I-151), the University will admit and enroll only those applicants who, through their admission to this University, (1) will be admitted to the U.S. by the Immigration Service to study here or (2) are currently in valid nonimmigrant status in the U.S. or will achieve or continue such status. Enrollment in courses through Extended Education does not constitute admission to the University. For purposes of maintaining valid nonimmigrant student status (F or J visa) under Immigration regulations, enrollment in courses through Extended Education will be counted as part of "a full course of study" only when approved in advance of registration by the Director, International Education Center.

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.

Admission of foreign graduate students will involve consultation with the graduate adviser from the department or school to which the student is applying for study. Scholastically eligible foreign graduate students may be admitted, dependent upon the preparation of the student as assessed by the Admissions Officer and the graduate adviser of the appropriate school or department. The graduate adviser of the appropriate school or department in consultation with the Admissions Officer and the Director of the American Language Program will decide the English standard to be applied to foreign students applying to that school.

**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 to 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. To apply for admission to summer session courses, students should contact the Summer Session Office at 498-5561 during the spring semester.

**Other Applicants**

Applicants not admissible 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. Such applicants must meet all of the following conditions:

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 in 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 — Young Scholars Program

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 for eligible California high school graduates. Such admission is only for a given program and does not constitute the right to continued enrollment.

These high school students may enroll in one or two courses each semester at CSULB through the Young Scholars Program. Students must be California State residents. The Young Scholars Program features reduced registration fees, streamlined registration procedures and workshops especially designed to introduce high school students to the University. There is no application fee, and course credits earned through the program may be transferred to other colleges or universities. Further information and pre-applications may be requested from the School Relations Office at 498-5358.

#### Early Admission Program

California State University, Long Beach will recognize outstanding academic achievement (3.75 GPA or higher) of high school students by issuing an early admissions commitment to such applicants conditional upon the earning of the high school diploma or its equivalent.

Details about the Early Admission Program may be obtained from the School Relations Office at 498-5358.

#### 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 pattern of high school courses is required for admission, students should be prepared to undertake a full program of studies, including a required program in General Education. Therefore, students applying to CSULB are strongly encouraged to include the following subjects as part of their high school preparation:

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 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.

Students whose grade point average is above 3.2 are not required to present test scores.

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

<sup>1</sup> Students earning grade point averages above 3.20 are eligible for admission.

<sup>2</sup> Students earning grade point averages below 2.0 are not eligible for admission.

## Testing

All entering freshmen and sophomores are required to complete the American College Test (ACT) or the College Entrance Examination Board Scholastic Aptitude Test (SAT) before their eligibility for acceptance can be determined. Information and applications can be obtained from high school counselors or the Testing Office at California State University, Long Beach. Test dates are offered several times a year, and prospective students must register approximately one month prior to the test date.

All first-time freshmen and all new and returning lower division students (those with fewer than 56 transferable units) who will graduate from the CSUC system under the degree requirements of 1978-79 and subsequent general catalogs are required to take the English Placement Test (EPT), with the exceptions of students who present any one of the following:

1. Satisfactory scores on the CSUC English Equivalency Examination.
2. Scores of 3, 4, or 5 on the English Composition Examination of the College Board Advanced Placement Program.
3. A score of 600 or above on the College Board Achievement Test in English Composition with Essay.
4. A score of 510 or above on the verbal section of the College Board Scholastic Aptitude Test (SAT, Verbal).
5. A score of 23 or above on the ACT English Usage Test.

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

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.

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

Students may also earn lower division units by taking the English Equivalency Examination or from one to three of the Science/Mathematics Equivalency Tests.

To qualify for the baccalaureate or master's degrees, each student must be certified proficient in written composition in English. Proficiency must be demonstrated by passing an approved certification examination required by the major department or school or by passing the general University examination, the Graduation Writing Proficiency Examination. Currently, this examination (GWPE) is the only one in use to fulfill this requirement. Students are encouraged to take the examination in the first semester of their junior year.

All prospective master's degree candidates and credential candidates should check with their major departments regarding specific testing requirements.

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

The University reserves the right to administer additional tests to all undergraduate and graduate students whenever it is deemed appropriate for the improvement of the instructional program.

## 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

California State University, Long Beach grants credit to those students who pass examinations that have been approved for credit systemwide. These include the CSUC English Equivalency Examination and some CLEP.

Students may challenge courses by taking examinations developed at the campus. Credit shall be awarded to those who pass them successfully. 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.

### 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.

#### 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.

#### 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.

### Admission of Postbaccalaureate and Graduate Students

In order to register for study at the University, a student must be admitted by the Admissions Office. Students holding a baccalaureate degree or its equivalent from an accredited college or university, having been in good standing at the colleges or universities attended, and meeting the academic standards specified for graduate students may be admitted with post-baccalaureate standing.

All students seeking a graduate degree or recommendation for certification for a public school service credential must request the registrars of all colleges or universities attended to forward official transcripts to the Office of Admissions and Records; transcripts presented by students are not acceptable. However, *students must have a complete copy of their transcript to present to the department faculty when requesting advice about advanced degree or credential programs.*

An applicant for graduate admission with a degree objective for whom a complete set of transcripts is not available at the time of registration may be allowed to register, pending receipt of the missing transcripts, upon presentation of evidence warranting such action to the Office of Admissions and Records; and where applicable to the appropriate School director or department adviser of graduate studies. This is a tentative or provisional permit; should later information not warrant matriculation at the University, the student will be withdrawn. Course work completed under provisional acceptance may not be applied toward graduate degree programs should admission be denied on the basis of non-completion of the baccalaureate.

Applicants seeking financial aid should also complete a "Preliminary Financial Aid" application and submit it with the material specified above.

#### 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.

### 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*.

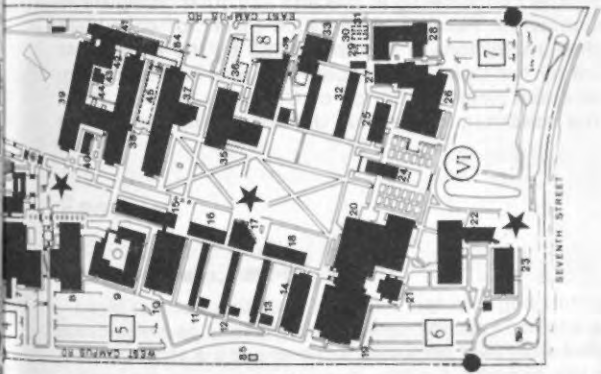
Graduate students are not permitted to attend any class nor complete any program requirements for which they have not officially registered.



- Key**
- Existing
  - - - Temporary
  - ★ Emergency phone locations
  - Road gates (closed to through traffic)



**CSULB**  
 California State University, Long Beach  
 1250 Bellflower Boulevard  
 Long Beach, California 90840  
 498-4150 (day)  
 498-4101 (after 5 p.m.)



**Legend**

- Voice Information and Parking
- A through E (Student Parking)
- Through (Employee Parking)
- ★ Special Event Sites
- Proposed Amphitheater site (AMP)
- Proposed Art Museum and Galleries (AMG)
- Proposed Auditorium
- Proposed Convocation Center Site CC
- Fine Arts Galleries FA 1, 2 & 3
- Graduate Center LIB E-112
- Oryzauma PE
- Studio Theatre TA
- University Theatre UT
- University Multi-Purpose Rooms USU

**Buildings**

Administration	1	Liberal Arts LA1	14
Applied Arts and Sciences	48	Liberal Arts LA2	15
Classroom AA&S	49	Liberal Arts LA3	12
Offices AA&S		Liberal Arts LA4	11
Proposed Education Conference Center		Library East LIB E	20
CEC		Library West LIB W	19
Education ED1	83	McIntosh Humanities Building MHB	24
Education ED2	23	Microbiology MIC	41
Engineering E1	50	Multi-Media Center MM	21
Engineering E2	51	Music MJ	28
Engineering E3	52	Music Site (future)	71
Engineering E4	53	Nursing NUR	3
Faculty Office F01	18	Peterson Hall of Science PH1	37
Faculty Office F02	16	Peterson Hall of Science PH2	38
Faculty Office F04	36	Peterson Hall of Science PH3	39
Faculty Office F05	45	Science Lecture Halls SCL	37
Fine Arts FA1	32	(Lecture Halls 140-141)	40
Fine Arts FA2	33	Psychology PSY	9
Fine Arts FA3	34	Public Safety PS/Police Operations PO	57
Fine Arts FA4	35	School of Business Classrooms SBI	10
Fine Arts FA5	35	Social Science Public Affairs SPA	15
Home Economics HEC	5	Student Services/Administration SSA	46
Industrial Education IE1	54	Studio Theatre TA	26
Industrial Education IE2	55	University Gymnasiums PE	47
Industrial Education IE3	55	University Student Union USU	6
Industrial Technology IT	56	University Theatre UT	27
Proposed Interfaith Center IFC	81	<b>Support Facilities</b>	
Isabel Patterson		Proposed Arboretum	77
Child Development Center	59	Bookstore BKS	8
Language Arts LAB	25	Cafeteria	7
Lecture Halls LH 150/151	17	Corporation Yard/Receiving	58
		Dance Office Trailer	30
		Earl and Loraine Miller Japanese Garden	76
		JO	76
		Fine Arts Dean Office	29
		Health Service HS	2
		Japanese Garden Site	76
		Music Office Trailer	31
		Organic Garden Site	74
		Revolving Center	63
		Residence Housing and Commons	62
		Los Alamitos Hall	60
		Los Cerritos Hall	61
		Soreptinian House	4

### 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.

Undergraduate 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.

No graduate student may register concurrently at this and any other collegiate institution without advance permission. Permission may be given for concurrent enrollment at CSULB and other institutions if recommended by the department graduate adviser and approved by the Dean of Graduate Studies. Forms for concurrent enrollment may be obtained from the Office of Graduate Studies. When such permission is granted, the academic load at this University must be reduced accordingly.

# Fees, Financial Assistance

## Fees

### Schedule of Fees, 1981-82

Legal residents of California are not charged tuition. The following reflects applicable fees and nonresident tuition for the semester system.

All students are charged the following fees each semester.

*Fees are subject to change without advance notice. Fees for 1982-83 will be published in the Fall, 1982 Schedule of Classes.*

#### All Students

Application fee (nonrefundable), payable by check or money at time application is made: \$25.

	Number of Units	
	Fall, 1981	Spring, 1982
Student Services Fee .....	\$79.50	\$94.50
Facilities Fee .....	3.00	3.00
Instructionally Related		
Activity Fee .....	5.00	5.00
Student Body Fee .....	10.00	10.00
University Union Fee .....	10.00	13.00
Total Per Semester .....	\$107.50	\$125.50

#### Nonresident Students (U.S. and Foreign)†

Non resident tuition (15 or more units) maximum .....	\$1,080.00
(less than 15 units) per units or fraction .....	72.00

*Note: The total amount of nonresident tuition charged shall not exceed \$2,160 per academic year.*

† 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.



<b>Summer Session</b>	
Fee per unit .....	\$ 50.00
University Union fee per session .....	5.00
Student Body fee per session .....	1.00

<b>Extension†</b>	
Extension tuition	
Lecture or discussion course, per unit .....	\$ 44.00
Activity course, per unit .....	58.00
Science laboratory course, per unit .....	78.00

<b>Other Fees or Charges</b>	1981-82
Application (and reapplication) fee (non-refundable) payable by check or money order at time application is made .....	\$ 25.00
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 .....	10.00
Complete transcript of record .....	2.00
Diploma fee .....	8.00
Organ practice, per student, per semester .....	10.00
Organ practice, per student, per summer session .....	.50
Parking fee per semester for all students .....	22.50
Parking fee per semester for less than four-wheeled self-propelled vehicles—automotive .....	5.63
Residence hall room and board fee per academic year de- pending on type of accommodations (approximate) .....	\$1,900 to \$2,100

### Credit Cards

In the event a student desires to pay any fees by use of BankAmericard, VISA, or Master Charge, he/she should contact the University Business Office. If the student's bank does not have a check service program through the campus, the student may obtain a cash advance at a local bank.

### Auditors

Students enrolled as auditors, not for credit, are exempt from payment of the application fee.

**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.

### Student Services Fee

A Student Services 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.

### Procedure for the Establishment of a Student Body Fee

The law governing The California State University and Colleges provides that a student body fee may be established by student referendum with the approval of 2/3 of those students voting. The student body fee was established at CSULB by student referendum on November 19, 1952. The same fee can be abolished by a similar 2/3 approval of students voting on a referendum called for by a petition signed by 10% of the regularly enrolled students. (*Education Code*, Section 89300) The level of the fee is set by the Chancellor upon recommendation by the campus. Student body fees support a variety of cultural and recreational programs, child care centers, and special student support programs.

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

The 19 campuses and the Chancellor's Office of The California State University and Colleges are financed primarily through funding provided by the taxpayers of California. Including capital outlay, the CSUC 1980-81 budget totals approximately \$1.1 billion. Approximately \$1.074 billion of the \$1.1 billion total has been budgeted to provide support for a projected 230,750 full-time equivalent (FTE) students. Thus, excluding costs which relate to capital outlay and the Energy and Resources Fund (e.g., building amortization), the average cost per FTE student is \$4,652 per year. Of this amount, the average student pays \$387. Included in this average student payment calculation is the amount paid by non-resident students. The remaining \$4,265 in costs is 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:

† Certain courses may require material fee.

## Total 1980-81 CSUC Budget

(Projected Enrollment: 230,750 FTE)

Funding Source	Amount	Average Cost Per Student (FTE)†	Percentage
State Appropriation (Support).....	\$ 929,137,926	\$4,026	86.6%
Student Charges .....	89,303,075	387**	8.3%
Federal (Financial Aids).....	55,094,386	239	5.1%
State Funding (Capital Outlay and Energy and Resources Fund)	25,553,233	***	***
<b>Total .....</b>	<b>\$1,099,088,620</b>	<b>\$4,652</b>	<b>100.0%</b>

## Refund of Fees

Details concerning fees which may be refunded, the circumstances under which fees may be refunded, and the appropriate procedure to be followed in seeking refunds may be obtained by consulting Section 41803 (parking fees), 41913 (nonresident tuition), 42019 (housing charges), and 41802 (all other fees) of Title 5, *California Administrative Code*. In all cases it is important to act quickly in applying for a refund. Information concerning any aspect of the refund of fees may be obtained from the Business Manager.

## 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

† 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 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 \$387 depending on whether they are part-time, full-time, resident or nonresident students.

\*\*\* Not included in the Average Cost Per Student (FTE), and Percentage columns. The estimated replacement cost of all the system's permanent facilities and equipment on the 19 campuses is currently valued at \$3.12 billion, excluding the cost of land.

## 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, instructionally related 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, activity fee or University Union fees because of a reduction in unit load from more than six units to six or less units.

## Determination of Residence for Nonresident Tuition Purposes

The campus Office of Admissions and Records determines the residence status of all new and returning students for nonresident tuition purposes. Responses to items 30-45 on the Application for Admission and, if necessary, other evidence furnished by the student is used in making this determination. A student may not enroll in classes until complete responses to those items are on file in 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, 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 and who, at the same time, intends to make California his or her permanent home. Steps must be taken at least one year prior to residence determination date to show an intent to make California the permanent home with concurrent relinquishment of the prior legal residence. An intention to establish and maintain California residence can be shown by registering to vote and voting in elections in California; filing resident California state income tax forms on total income; ownership of residential property or continuous occupancy or renting 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 the student's stay in California.

In general, the unmarried minor (a person under 18 years of age) derives legal residence from the minor's parents, or, in the case of permanent separation of the parents, from the parent with whom the minor maintains his or her place of abode. The residence of a minor cannot be changed by the minor or 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 1981-82 academic year are September 20, 1981 and January 25, 1982. Questions regarding the residence determination dates should be directed to the campus Admissions Office which can give you the residence determination date for the term for which you are registering.

There are several exceptions from nonresident tuition including:

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

Any student, following a final decision on campus on his or her residence classification, may only 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 the classification. The Office of General Counsel may make a decision on the issue, or it may send the matter back to the campus for further review. 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.

## Debts Owed to the University

Should a student or former student fail to pay a debt owed to the institution, the institution may "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 (see Title 5, *California Administrative Code*, Sections 42380 and 42381). For example, the institution may withhold permission to receive official transcripts of grades from any person owing a debt. If a student believes that he or she does not owe all or part of an unpaid obligation, 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.

## Financial Assistance

### Institutional and Financial Assistance Information

The following information concerning student financial assistance may be obtained from Mr. Eric Godfrey, Director, Financial Aid, SS/AD Bldg., Rm. 270, 498-4641:

1. Student financial assistance programs available to students who enroll at California State University, Long Beach;
2. The methods 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 and requirements for accurately preparing such application;
4. The rights and responsibilities of students receiving financial assistance; and
5. The standards which the student must maintain in order to be considered to be making satisfactory progress for the purpose of establishing and maintaining eligibility for financial assistance.



The following information concerning the cost of attending California State University, Long Beach is available from Mr. Eric Godfrey, Director, Financial Aid, SS/AD Bldg., Rm. 270, 498-4641. This information includes:

1. Fees and tuition (where applicable);
2. Estimated costs of books and supplies;
3. Estimates of typical student room and board costs or typical commuting 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. This information may include:

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;
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; and
5. The names of associations, agencies or governmental bodies which accredit, approve or license the institution and its programs, and the procedures under which any current or prospective student may obtain or review upon request a copy of the documents describing the institution's accreditation, approval or licensing.

Information regarding special facilities and services available to handicapped students may be obtained from the Disabled Student Services Office, 498-5401 and TTY 498-5426 for the hearing impaired.

The Office of Financial Aid 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.

Preferential filing deadlines are set to establish priorities for awarding. Financial aid applications are processed in the order of completion—files completed first are awarded first. Students are advised to complete files early since funds are limited:

File Aid Application on or before	Submit Documentation on or before	To Receive Award for
March 1, 1981	April 15, 1981	1981-82
March 1, 1982	April 15, 1982	1982-83

#### Application

To apply for financial aid from CSULB, students must file the Student Aid Application for California (SAAC). The SAAC is a multiple-purpose form that also is used to apply for California Grants from the California Student Aid Commission and for Basic Educational Opportunity Grant (BEOG) funds from the federal government. The SAAC must be mailed to the College Scholarship Service (CSS), the national processor designated by CSULB. New students may obtain the SAAC from high school counselors or local college financial aid offices. Students currently enrolled at CSULB may pick up the SAAC from the Office of Financial Aid. All students may obtain detailed information about the CSULB financial aid program by requesting the University Application Prospectus.

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 Financial Aid Form; (2) financial aid transfer records from all colleges previously attended; and (3) other clarifying information requested by the Office of Financial Aid.

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. All loan, grant and work programs are available for the academic year, however, work-study typically is available for summer session.

#### Financial Aid Eligibility

To determine eligibility the standard need analysis system of the College Scholarship Service is used. This system allows the Office of Financial Aid 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. A "package" consisting of various types of funds (loans, grants, work) is awarded to meet full need.

#### Notification of Awards

All applicants who submit completed files by April 15 will be mailed their award notification by June 15. 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.

#### Unit Load and Citizenship Requirements

In addition to demonstration of financial aid eligibility, all undergraduate and graduate applicants must be in good standing, be enrolled at least half-time and show satisfactory academic performance. 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. Students are barred from discharging their educational loan debt through bankruptcy proceedings for a five-year period after leaving the University.

#### Appeal Procedure

All students have the option of discussing their 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 Director of Financial Aid.

**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 \$3,000 for the first two years; up to \$6,000 for the bachelor's degree; and up to a cumulative total of \$12,000 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 4 per cent on the unpaid principal. Repayment of loan principal and interest at a minimum of \$30 per month begins six 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.

A "revolving fund" is established from the collection of NDSL which provides for the needs of future generations of students. The promissory note, signed upon receipt of NDSL money, is a legally binding contract in which the student promises to pay the debt. CSULB must follow due diligence procedures in collecting this loan, even if it means using a collection agency or going through legal proceedings to recover the loan. Students have both a moral and legal responsibility to repay loans as agreed so the next needy person will not be denied an education for lack of money.

The NDSL gives students the opportunity to borrow money against future income. For students who have not established credit, the NDSL provides the opportunity to establish a good credit history through prompt loan repayments.

**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. 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 Office of Financial Aid 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 30 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. 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 Office of Financial Aid.

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 Office of Financial Aid 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 Office of Financial Aid regarding all scholarships.

**Graduate Assistantships and Teaching Assistantships**

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

**State Graduate Fellowships**

Fellowships are competitively available only to students pursuing a recognized degree on a full-time basis and who will enter their first or second year of graduate or professional school beginning in the fall semester. Qualifications depend upon Graduate Record Examination test scores, grade-point average and California residency. Deadlines for tests come early during the fall term prior to entry into graduate school. Application and applications materials are available in the Office of Financial Aid and the Office of Graduate Studies usually in November. Information may also be requested from the California Student Aid Commission, 1410 Fifth Street, Sacramento, CA 95814.

Winners will be selected competitively upon unusual ability, achievement and potential for success; consideration will be given to students from disadvantaged backgrounds. Scholarships are for an amount equal to fees at CSULB. Awards differ among colleges according to their tuition and fees.

**Other Student Aid Programs**

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

**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 at any of the state colleges and universities. New students applying to the University must indicate on the Student Aid Application for California (SAAC) that they are also applying for the Cal Grant A. Applications may be obtained from the Office of Financial Aid, 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 ad-



dition, fees are normally provided in the second, third, and fourth years. The grant is renewable for four years.

New students applying to the University must indicate on the CSUC Student Aid Application for California (SAAC) that they are also applying for Cal Grant B. Information regarding the grant may be obtained from the Office of Financial Aid, high school counselors, or by contacting the California Student Aid Commission, 1410 Fifth Street, Sacramento, California 95814.

#### *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 \$1,800 per academic year. Once a student is determined eligible for 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, permanent residents, and refugees.

After an applicant has completed the SAAC 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 Office of Financial Aid to be processed for a basic grant award.

#### *Guaranteed Student Loan (GSL)*

The Guaranteed 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 borrowed.

Federal regulations allow any student to apply for the Guaranteed 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 dependent students (\$12,500 cumulative), \$3,000 per year for undergraduate independent students (\$15,000 cumulative), and \$5,000 per year for graduate students (\$25,000) maximum. Local lender policy is available from the Office of Financial Aid.

#### *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, which determines eligibility.

#### **Other Types of Financial Assistance**

##### *Emergency Loans*

Emergency loans are available from the Office of Financial Aid 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. The loans cannot be used to pay registration fees.

##### *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.

#### *Cooperative Education (CO-OP)*

The Cooperative Education Office places students in career or academic related positions with corporations, businesses, agencies and institutions. Students are paid at normal entry-level wages. Minimum periods of employment for full-time Cooperative Education placements are one semester. For part-time placements, a minimum of 20 hours is required. Summer internships are also available. Contact the Experiential Learning Center, University Union, Room 110.

#### *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 Career Planning and Placement to students interested in part-time employment.

#### *Veteran's and Dependent's Benefits*

Veterans or dependents of veterans may be eligible for benefits under the following programs: Grants, these include regular GI Bill for veterans, disability compensation for disabled veterans and many other federal and state grants for eligible children, wives and widows of MIAs, deceased or disabled veterans; VA Work Study for full-time students on the GI bill who are paid the current hourly minimum wage, tax free for employment in any VA facility; and Short Term Loans provided from a revolving loan fund by the AMVET Department of California Service Foundation.

Any student interested in veteran's benefits should contact the Veterans' Affairs Office, Student Services/Administration Building 267, 498-5436.

#### *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.

#### *Phi Kappa Phi Graduate Fellowships*

Fellowships in support of *first year* graduate work, normally undertaken within the year following receipt of the baccalaureate degree, are awarded by the honor society of Phi Kappa Phi. Applications must be filed with the secretary of the campus chapter by the established deadline (normally February 1) on special forms available from the office of the chapter secretary. (Call 498-4206 for information.)

### Estimated Expenses

Students should be prepared to meet expenses for fees at the time of registration. Books should be purchased when classes begin. Other expenses are ongoing and must be anticipated monthly and included in the total cost of attendance. Expenses generally go up an average six to eight percent per year. Actual costs depend upon where the student lives and if there are dependent children. Financial aid programs are designed to help students meet standard University-related expenses during the academic year. The following budgets will assist students in planning costs for average expenses: (Costs include University fees, books and supplies, room and board, personal miscellaneous and transportation based on a standard 1980-82 CSULB budget.)

Student living at home with parents-nine month term-\$2,832

Student living in a residence hall-nine month term-\$3,338

Single student living off-campus (apartment, house)-twelve-month term-\$6,188  
(assumes shared housing)

# General Regulations and Procedures

## Student Rights

### Nondiscrimination on the Basis of Sex

The California State University and Colleges does not discriminate on the basis of sex in the educational programs or activities it conducts. Title IX of the Education Amendments of 1972, as amended, and the administrative regulations adopted thereunder prohibit discrimination on the basis of sex in education programs and activities operated by CSULB. Such programs and activities include admission of students and employment. Inquiries concerning the application of Title IX to programs and activities of CSULB may be referred to Jan Howell, the campus officer assigned the administrative responsibility of reviewing such matters or to the Regional Director of the Office of Civil Rights, Region 9, 1275 Market Street, 14th Floor, San Francisco, California 94103.

### Nondiscrimination on the Basis of Handicap

The California State University and Colleges does not discriminate on the basis of handicap in violation of Section 504 of the Rehabilitation Act of 1973, as amended, and the regulations adopted thereunder.

More specifically, The California State University and Colleges does not discriminate in admission or access to, or treatment or employment in, its programs and activities. John W. Shainline, Vice President for Student Affairs, has been designated to coordinate the efforts of CSULB to comply with the Act and its implementing regulations. Inquiries concerning compliance may be addressed to this person at CSULB, 1250 Bellflower Blvd., Long Beach, California 90840, (213) 498-5587.

### Nondiscrimination on the Basis of Race, Color, or National Origin

The California State University and Colleges complies with the requirements of Title VI of the Civil Rights Act of 1964 and the regulations adopted thereunder. No person shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program of The California State University and Colleges.

### 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 are: 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 Education. 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 Education, 330 "C" Street, Room 4511, Washington, D.C. 20202.

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, 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.

#### Use of Social Security Number

Applicants are required to include their social security account number in designated places on applications for admission pursuant to the authority contained in Title 5, *California Administrative Code*, Section 41201. The social security account number is 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.

#### Changes in Rules and Policies

Although every effort has been made to assure the accuracy of the information in this catalog, students and others who use this catalog should note that laws, rules, and policies change from time to time and that these changes may alter the information contained in this publication. Changes may come in the form of statutes enacted by the Legislature, rules and policies adopted by the Board of Trustees of The California State University and Colleges, by the Chancellor or designee of The

California State University and Colleges, or by the President or designee of the institution. Further, it is not possible in a publication of this size to include all of the rules, policies and other information which pertain to the student, the institution, and The California State University and Colleges. More current or complete information may be obtained from the appropriate department, school, or administrative office.

Nothing in this catalog shall be construed, operate as, or have the effect of an abridgement or a limitation of any rights, powers, or privileges of the Board of Trustees of The California State University and Colleges, the Chancellor of The California State University and Colleges, or the President of the campus. The Trustees, the Chancellor, and the President are authorized by law to adopt, amend, or repeal rules and policies which apply to students. This catalog does not constitute a contract or the terms and conditions of a contract between the student and the institution or The California State University and Colleges. The relationship of the student to the institution is one governed by statute, rules, and policy adopted by the Legislature, the Trustees, the Chancellor, the President and their duly authorized designees.

## 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 and what rules will apply to withdrawals.
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.

Graduate students receiving grades lower than C in required courses must repeat them to earn a higher grade.

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. Graduate students should refer to the "Regulations Governing Master's Degrees" section of this *Bulletin*. 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.

#### 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 unforeseen, 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. This form shall include a statement of:

1. All work completed in the course, the grades assigned for that work, and the percentages of the final grade accounted for by each item.
2. The work not completed and the percentage that each uncompleted item will count toward the final grade.
3. The final grade the instructor will assign to the student and have posted by the Office of Admissions and Records if the course requirements are not completed within the prescribed time limit.

Normally the student should sign and receive a copy of the "Incomplete 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. At the request of the student, a faculty member may assign an Incomplete (I) grade even when the student cannot be present to sign the "Incomplete Form," if the student meets all the University requirements for assigning an Incomplete. If this is done, the instructor will forward the student copy of the form via the department office. When the work agreed upon has been completed and evaluated, a final grade is assigned by an instructor.

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 incompleting 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.

#### 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. Students should be aware that the definition of "serious and compelling reasons" as applied by faculty and administrators may become narrower as the semester progresses. 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 four weeks after classes begin. 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.

### Student Grade Record

The Registrar shall eradicate originally awarded grades from official transcripts when the following grade changes are made:

1. Grade change due to a clerical error on the part of the instructor of record.
2. Grade change due to a favorable grade appeal.
3. Grade change due to a resolution of RD (report delayed) grade.

The Registrar shall not eradicate original grades from student transcripts when the following situations occur:

1. Resolution (make-up) of an Incomplete.
2. Repetition of a course.

The Registrar shall indicate some grade or administrative symbol for any student enrolled in a course beyond the fourth week.

### 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 affected student within the first regular semester 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 the 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 and University policies (P.S. 79-17) can be obtained from the offices of the school deans.

### 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

Under the conditions cited in paragraph 2 below, a student who has received a grade of D, F, U or NC in a course taken at CSULB 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 department chair's permission must be obtained for the first D, F, U or NC grade to be omitted from the computation of units attempted and grade points earned. Subsequent repetition 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 repetition of courses will remain on record.

In exercising this option, students must repeat the course at this campus. Before the end of the fourth week of the semester in which the course is repeated, the student must file the formal request at the Records Office to have the grade disregarded for grade point computation. This request must be approved by the chairperson/program director of the department in which the course is offered.

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



### Repeatable Courses

A student may repeat for additional units or credit toward a baccalaureate degree any course specified as repeatable in this *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). Graduate students are placed on academic probation when their cumulative grade point average falls below 3.0.

The grade point average is computed by dividing the number of grade points by the number of units attempted.

Following is a chart showing the points assigned each grade used in computing the grade point average.

#### Grade Point Computation

- A receives 4 points per unit
- B receives 3 points per unit
- C receives 2 points per unit
- D receives 1 point per unit
- F receives 0 points per unit
- U 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.

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.

### 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.

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.

### 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.

† 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.



### 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:	16
Graduates	17
First Semester Freshmen	17
Students on Academic Probation	18
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 "Regulations Governing Master's Degrees" section of this *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.

### 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.

### 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.)

### Credit for Cross-Listed 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.

### Graduation 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 December and summer session graduates, by the preceding February 1 at the Admissions and Records Office. Students must file by March 1 in order to have their names appear in the Commencement Program.

### 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. Descriptions of credential programs appear in the Credential Advisement Handbook. Specific information and applications to individual programs are available in program offices of the School of Education and departmental offices through which they are offered. Application for student teaching and for field work in credential programs must be filed by October 1 for spring semester and March 1 for summer session and fall semester.

### Student Discipline

Inappropriate conduct by students or by applicants for admission is subject to discipline as provided in Sections 41301 through 41304 of Title 5, *California Administrative Code*. These sections are as follows:

#### Article 1.1, Title 5, *California Administrative Code*

**41301. Expulsion, Suspension and Probation of Students.** Following procedures consonant with due process established pursuant to Section 41304, any student of a campus may be expelled, suspended, placed on probation or given a lesser sanction for one or more of the following causes which must be campus related:

- (a) Cheating or plagiarism in connection with an academic program at a campus.
- (b) Forgery, alteration or misuse of campus documents, records, or identification or knowingly furnishing false information to a campus.
- (c) Misrepresentation of oneself or of an organization to be an agent of a campus.
- (d) Obstruction or disruption, on or off university property, of the campus educational process, administrative process, or other campus function.
- (e) Physical abuse on or off campus property of the person or property of any member of the campus community or of members of his or her family or the threat of such physical abuse.
- (f) Theft of, or non-accidental damage to, campus property; or property in the possession of, or owned by, a member of the campus community.
- (g) Unauthorized entry into, unauthorized use of, or misuse of campus property.
- (h) On campus 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 campus property or at a campus function without prior authorization of the campus president.
- (j) Engaging in lewd, indecent, or obscene behavior on campus property or at a campus function.
- (k) Abusive behavior directed toward, or hazing of, a member of the campus community.
- (l) Violation of any order of a campus 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 campus community" is defined as meaning California State University and Colleges Trustees, academic, nonacademic and administrative personnel, students, and other persons while such other persons are on campus property or at a campus function.
- (2) The term "campus 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
- (o) This Section is not adopted pursuant to Education Code Section 89031.
- (p) 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.
  - (B) all campus feeding, retail, or residence facilities whether operated by a campus or by a campus 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.
- (5) The term "hazing" means any method of initiation into a student organization or any pastime or amusement engaged in with regard to such an organization which causes, or is likely to cause, bodily danger, or physical or emotional harm, to any member of the campus community; but the term "hazing" does not include customary athletic events or other similar contests or competitions.

**41302. Expulsion, Suspension or Probation of Students; Fees and Notification.** The President of the campus 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 or she 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 or she is suspended, no additional tuition or fees shall be required of the student on account of the suspension. In the event that a student who has not reached his or her eighteenth birthday and who is a dependent of his or her parent(s) as defined in Section 152 of the Internal Revenue Code of 1954 is suspended or expelled, the President shall immediately notify his or her 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 imand other measures deemed necessary or appropriate to meet the emergency, safeguard persons and property, and maintain educational activities.

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 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.



**41303. Conduct by Applicants for Admission.** Notwithstanding any provision in this Chapter 1 to the contrary, admission or readmission may be qualified or denied to any person who, while not enrolled as a student, commits acts which, were he enrolled as a student, would be the basis for disciplinary proceedings pursuant to Sections 41301 or 41302. Admission or readmission may be qualified or denied to any person who, while a student, commits acts which are subject to disciplinary action pursuant to Section 41301 or Section 41302. Qualified admission or denial of admission in such cases shall be determined under procedures adopted pursuant to Section 41304.

**41304. Student Disciplinary Procedures for the California State University and Colleges.** The Chancellor shall prescribe, and may from time to time revise, a code of student disciplinary procedures for the California State University and Colleges. Subject to other applicable law, this code shall provide for determinations of fact and sanctions to be applied for conduct which is a ground of discipline under Sections 41301 or 41302, and for qualified admission or denial of admission under Section 41303; the authority of the campus President in such matters; conduct related determinations on financial aid eligibility and termination; alternative kinds of proceedings, including proceedings conducted by a Hearing Officer; time limitations; notice; conduct of hearings, including provisions governing evidence, a record, and review; and such other related matters as may be appropriate. The Chancellor shall report to the Board his actions taken under this section.

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 student discipline is available in the Office of Student Affairs, and from the Office of the Vice President for Student Services.

### 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 the 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)

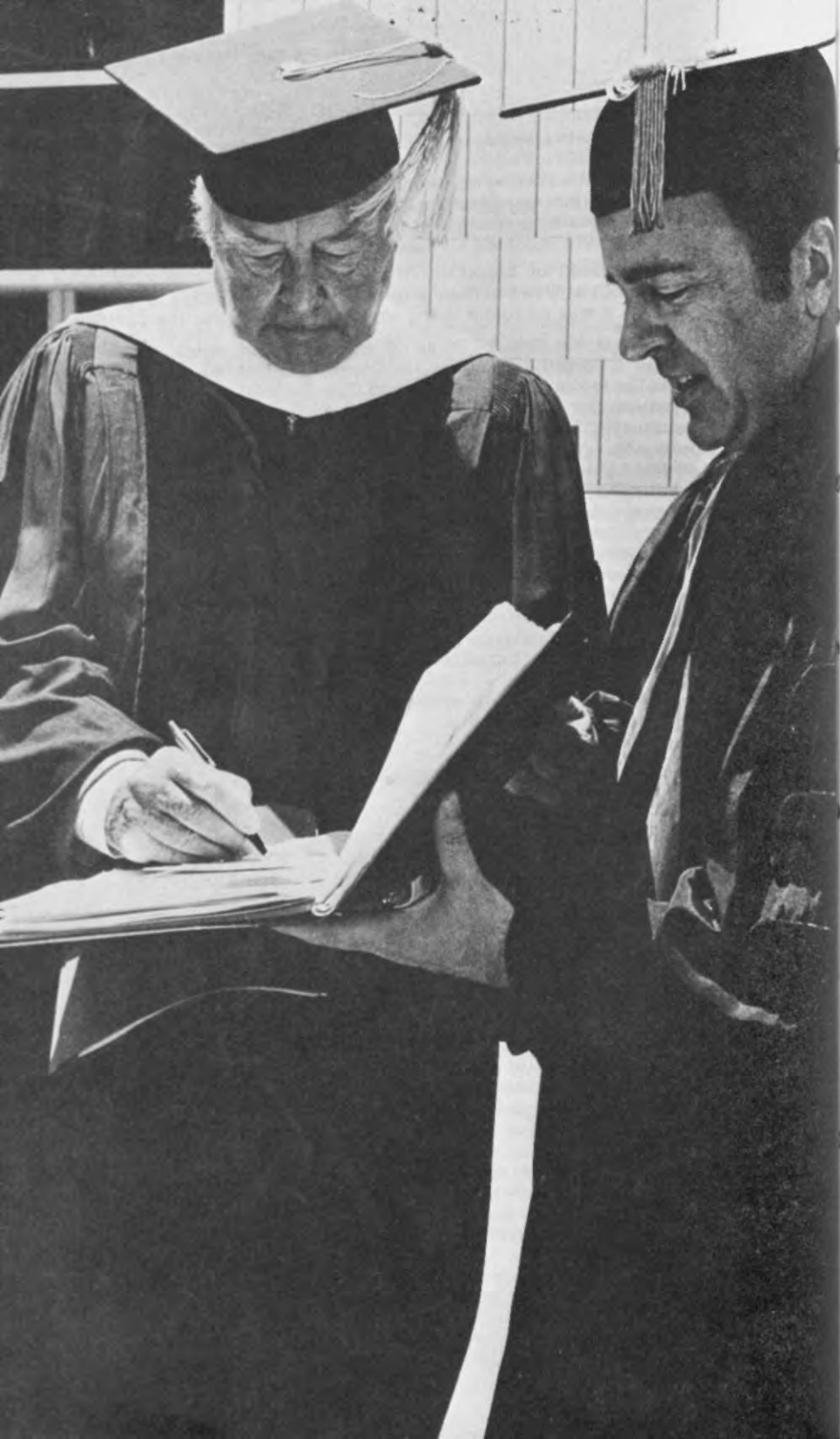
Sanctions from the Dean of Students' Office are pursuant to the authority provided in Section 41301 of Title 5 of the *California Administrative Code*. Copies of Section 41301 of Title 5 may be found in the *University Bulletin* and the *Campus*

*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.





## General Education

General Education is an important aspect of personal development. It is that part of your university program which encourages you to develop or improve such basic life skills as creativity, critical thinking, self-motivation, independence, an understanding of values, and a general philosophy by which to make decisions throughout life. Possession of these skills makes possible your continued personal growth and the further development of your creative and adaptive capabilities—qualities necessary for you to adjust to and influence a rapidly changing world. It is the basis for lifelong learning, and it can increase your ability to be self-directing. It is, in effect, a "survival kit" for the rest of your life!

At California State University, Long Beach, courses approved for General Education credit provide —

- Information: the raw material for thinking, analysis, reflection, and discourse
- Methods of Inquiry: direction and practice in methodologies of the several disciplines
- Basic Skills: the ability to analyze ideas and data, to relate these to other materials, to develop arguments both logical and cogent, to reach conclusions, and to present the results of these processes with clarity and style
- Qualities of Mind: a respect for data and unpleasant facts; an appreciation of the arts; tolerance, commitment, a taste for learning; creativity, 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 within 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; and the promise of an introduction to new areas of knowledge and new career options.

To aid you in the process of developing a meaningful and integrative program in General Education, the University offers these forms of assistance:

Academic advisement, including assistance with General Education throughout the year in the Academic Advising Center and in departmental and school offices;

A special listing, in the *Schedule of Classes*, of those courses which the faculty have specified as being appropriate for the General Education Requirement in each category;

An "Advising Section" in the *Schedule of Classes* with information and suggestions about how to maximize your educational opportunities through General Education and the wise use of electives.

### General Regulations

The present policy of the Board of Trustees of The California State University and Colleges is that students graduating from a CSUC campus must fulfill certain breadth requirements (Section 40405, Title V, California Administrative Code). Of these, a minimum of 9 semester units must be upper-division courses taken at the campus conferring the degree. Partial credit *may be* transferred from another institution; a participating, regionally-accredited institution may certify completion of 39 semester units.

Each campus in the CSUC system may define which of its courses satisfy its General Education Requirements and determine which courses are transferable from other institutions (except where a maximum of 39 units are certified). The campus may add requirements and enact other regulations.

#### California State University, Long Beach, General Education Requirements

Each California State University, Long Beach, baccalaureate graduate must have completed at least 51 semester units of General Education courses. Only courses specifically approved for General Education and so listed in the *Schedule of Classes* may be used to fulfill General Education requirements.

At least nine of the 51 General Education units must be upper-division units taken after the student achieves upper-division standing (completion of 60 semester units). The nine units must be completed at C.S.U.L.B.

At least six units must be selected from among approved Interdisciplinary Courses (IC) in any of the categories specified below, but not more than three units may be counted in any one category. Interdisciplinary Courses may be approved for exemption from the 3-unit-per-category limit (to a maximum of six units) when two or more schools are involved. These exemptions are specifically noted in the individual course descriptions and in the *Schedule of Classes*.

The 51 units of General Education course work include three units of work in U.S. History and three units in U.S. Constitution and American Ideals, required by Section 40404, Title V, California Administrative Code. (See Categories D. and F., below.) The student has the option of receiving credit by examination for these requirements; 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 C.S.U.L.B. is exempt. Unit credit (to be included in the 51-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(s) in these subjects. Credit by examination, however, is subject to conditions specified in this Bulletin (p. 45).

"Double-counting" of a course for a major and for General Education requirements is permitted only if the course in question is *not* a course offered in the student's major department.

General Education units must be distributed as follows:

#### Category A: Communication in the English Language and Critical Thinking

9 units to include:

1. One approved course in written English.
2. One approved course in oral communication or a combination of oral and written communication, to include an understanding of the process of communication and experience in communication.
3. One approved course in critical thinking, designed to develop the ability to reason clearly and logically and to analyze other's thinking.

(Exceptions may be made in this category to the prohibition against double-counting of courses taught in the student's major department; these exceptions are noted in the individual course descriptions and in the *Schedule of Classes*.)

#### Category B: Physical Universe

12 units to include:

1. At least six units of inquiry into the physical universe and its life forms to include one approved course in the life sciences and one approved course in the physical sciences; both must involve laboratory experience.
2. At least three units of study in mathematical concepts and quantitative reasoning; approved courses foster an understanding of mathematical concepts rather than merely providing instruction in basic computational skills.
3. Another three units as necessary, selected from approved courses, to achieve a minimum of 12 units.

#### Category C: Humanities and the Arts

12 units to include:

1. At least three units from approved fine arts courses.
2. At least six units from approved courses to include courses in at least two of the following areas: literature, philosophy, and foreign languages.
3. Another three units as necessary, selected from approved courses to achieve a minimum of 12 units.

#### Category D: Social and Behavioral Sciences and Their Historical Backgrounds

12 units to include:

1. Three units selected from approved courses in U.S. History.
2. A minimum of nine units selected from approved courses in at least two disciplines.

#### Category E: Self-Integration

3 units:

At least three units selected from approved courses which facilitate understanding of the human being as an integrated physiological, social, and psychological organism.

#### Category F: Citizenship Requirement

Three units selected from approved courses in U.S. Constitution and American Ideals.

Some high-unit degree programs may receive authorization to require a minimum of 48 units of General Education for their major students. When a program is approved for this exemption, the requirements in *one* of the Categories B, C, or D is reduced by three units. Programs approved for this reduction are shown in the *Schedule of Classes*. Students in such programs should consult their department advisors for details.

Throughout, the University has tried to insure that you have a maximum freedom in choosing specific courses, and it is hoped that your choices will be made on the basis of a well-thought-out plan which incorporates the principles of breadth and coherence, so that you will be able to acquire the abilities, knowledge, understanding, and appreciation as interrelated elements and not as isolated fragments.

# Baccalaureate Degrees

California State University, Long Beach offers the following Baccalaureate Degree Programs:

## **Bachelor of Arts Degree** with the following majors:

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

## **Bachelor of Fine Arts Degree in Art**

## **Bachelor of Music Degree**

## **Bachelor of Science Degree** with the following majors:

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

## **Bachelor of Vocational Education Degree**

Refer to specific departments in the courses of study section for detailed descriptions of each program

## **General Requirements for the Baccalaureate Degree:**

1. Writing skills requirement
2. Completion of the one-unit course, The University and Your Future.
3. Completion of the General Education program including requirements in United States History, Constitution and American ideals and English Composition.



4. Completion of requirements for major (refer to specific departments).
5. Meet minimal scholarship requirements including an overall grade point average of 2.0.
6. Completion of an appropriate number and distribution of units for the degree.
7. Completion of 30 units in residence at CSULB of which 24 must be upper division.
8. Formal approval by the faculty of the University.

These requirements and related information are described below:

#### Writing skills requirements

##### Lower Division

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 regarding the EPT can be obtained from the Department of English, Humanities Office Building, Room 419 or the Testing Office SS/AD 216.

##### General Education Composition Requirements

As a part of the General Education requirement students are also required to complete one course in English Composition. (See General Education Requirements and the Department of English Course List.)

##### Upper Division and Graduate Level

##### Graduation Writing Proficiency Examination

To qualify for a degree, each student must be certified proficient in written composition in English. Proficiency must be demonstrated by passing the University Graduation Writing Proficiency examination or by passing an approved certification examination required by the major department or school. The responsibility for developing the skills necessary to pass the examination is the student's. Counseling and assistance are available however through the Academic Advising Center and Academic Advisors in the student's major department. Every baccalaureate candidate should take the examination during the first semester of the junior year. The examination may be retaken as many times as necessary. Information regarding the administration of this exam may be obtained from the Testing Office. (SS/AD) To cover the costs of administration and scoring, a fee of \$10 will be charged each time a student takes the examination.

##### Special Course Requirement

All undergraduate students must complete a one-unit course on the history and missions of universities, the career decision-making process and use of the University Library. This course, which is offered in a variety of modes, must be completed with the student's first 15 units at the University. Students should refer to a current *Schedule of Classes* to determine dates and locations of course offerings.

#### Univ. 100 The University in Your Future (1) F,S Faculty

An overview of the history and missions of universities, the career decision-making process and use of the University Library. Special emphasis is placed on the many programs available at CSULB for assisting students in obtaining a university education that is appropriate to their needs and desires. Offered on a Credit/No Credit basis only.

#### Scholarship

The minimum scholarship requirement for the bachelor's degree is a grade point average of 2.0 (C) in all course work applied toward fulfillment of the degree. The student shall also attain:

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

A 2.75 overall grade point average is required for admission to teacher credential programs.

#### 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.

#### 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.

#### 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.

#### 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.

### 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.

### 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.

### Senior Enrollment in Graduate Courses for Undergraduate Credit

Under special conditions, seniors who have an overall 3.0 grade point average or better and who have adequate undergraduate preparation in the subject may enroll in a course in the 500-599 series to fulfill the elective requirements of the bachelor's degree only. The course work may not be applied to the units of 500/600 level course work required by the department or school for the master's degree. The student must have a "Petition to Earn Credit Toward a Bachelor's Degree for a 500 Level Course Taken in the Senior Year" approved by the instructor, department, school and/or the Dean of Graduate Studies before registration in the class(es) is permitted.

### Minors and Certificates

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 should refer to the requirements of the department and school of their major, to see whether a minor is required for that major. Even if a minor is not required, students may elect to complete one or more minors from those available and have that so noted on their transcript.*

Students may elect to complete a certificate and it will be noted on their transcript. Undergraduate certificates at CSULB will be awarded only concurrently with, or subsequent to, the awarding of the bachelor's degree.

### 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.

### 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. 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.

### Graduation with Honors

The following criteria applies for graduation with honors:

1. 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*.
2. 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.
3. 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.
4. 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.

#### President's List

Students will be placed on the President's List to honor them for academic achievement each semester in which they complete 12 or more graded course units with a semester grade point average of 3.75-4.0. A certificate will be issued for each semester in which the student receives this honor.

#### Deans' List

Students will be placed on the Deans' List to honor them for academic achievement each semester in which they complete 12 or more graded course units with a semester grade point average of 3.5-3.74. A certificate will be issued for each semester in which the student receives this honor.

### Honor Societies

#### 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. In reviewing candidates the Elections Committee of the chapter will look basically for evidence of *broad liberal arts and cultural interests, scholarly excellence and good character*. Certain specific minimum requirements must also normally be met:

1. Residence at CSULB for at least four full semesters (60 units) at the time of graduation.
2. A grade point average of 3.70 or more in courses taken at CSULB and in all college work.
3. A major, or the equivalent, in one of the liberal arts or sciences.
4. At least 90 semester hours in liberal subjects. This work should include:
  - a. Reasonable breadth of work outside the major.
  - b. Knowledge of a foreign language at least minimally appropriate to a liberal education. This means satisfactory completion of at least one course at the second year college level or three years of a single language in high school or the equivalent.



- c. Knowledge of mathematics at least minimally appropriate to a liberal education. This means, at a minimum, satisfactory completion of course work to the level of one of the following: Mathematics 111, 112, 115B, 115S, 117 or the equivalent.

The Elections Committee may make minor exceptions to the specific requirements noted above provided there are compensating strengths in a student's background or record.

Inquiries should be directed to the President of the University chapter of Phi Beta Kappa, Dr. Roberta Markman, Comparative Literature Department.

Two additional societies which may elect students from all academic areas are:

**Mortar Board** — A national honor society for senior students who have achieved academic excellence and have made personal contributions to campus life through service and research — a 3.0 GPA is required.

**Phi Kappa Phi** — A national honor society for men and women which recognizes superior scholarship in all academic areas — membership includes both students and faculty.

Other societies may limit membership to particular academic areas. Among these organizations at California State University, Long Beach are the following:

**Beta Alpha Psi** (Accounting) National scholastic fraternity to give recognition to excellence in the field of accounting.

**Beta Gamma Sigma** (Business Administration) National honorary business society to recognize superior academic performance.

**Chi Epsilon** (Civil Engineering) National honor society open to Civil Engineering majors with a 2.9 GPA.

**Eta Kappa Nu** (Electrical Engineering) National honor society furthering area interests and promoting scholarship. GPA requirements for seniors 2.8, for juniors 3.0.

**Kappa Delta Pi** (Education) National honor society for teachers, encourages high professional, intellectual and personal standards. Recognizes outstanding contributions to education.

**Omicron Nu** (Home Economics) National honor society, recognizing superior scholarship and promoting leadership and research in the field of Home Economics.

**Phi Alpha** (Social Work) National honor society to improve the goals of social work on campus. GPA requirement 3.0.

**Phi Delta Gamma** (Scholarship) National honor society for graduate women students. Fosters academic achievement and professional preparation.

**Phi Delta Kappa** (Education) National organization which promotes service, research and leadership in education. Members include both students and faculty.

**Phi Epsilon Kappa** (Physical Education) National society for recognition in sports and physical education. GPA 3.0 requirement and faculty recommendation.

**Phi Mu Alpha-Sinfonia** (Music) National organization for students in music. Promotes music in America, especially contemporary American music.

**Phi Alpha Alpha** (Public Administration) National society to encourage scholarship among students of public administration.

**Phi Sigma Tau** (Philosophy) National honor society for students with a strong undergraduate concentration in philosophy.

**Pi Lambda Theta** (Education) National organization for undergraduate and graduate students. Purpose is to maintain high standards of scholarship and preparation for teaching.

**Pi Tau Sigma** (Mechanical Engineering) National honorary fraternity encouraging and recognizing outstanding scholastic achievement of students in the field.

**Sigma Alpha Iota** (Music) National organization for women in music. Aims to further the development of music in America through performance, study and participation in both campus and community projects.

**Tau Beta Pi** (Engineering) National honor society recognizing engineering students for academic achievement and participation in activities. Members are elected from top 20 percent of the senior and top 12 percent of the junior class.

## Post-Baccalaureate Studies & Graduate Degrees

### Advanced Studies

Students with a baccalaureate degree who wish to continue their education for personal enrichment or to meet professional needs may do so at CSULB either as a post-baccalaureate student or as a graduate student. For administrative purposes, a post-baccalaureate student is one who has not declared a master's degree as an objective but who is nevertheless attending class and participating in academic work at the University. A graduate student is one who has requested and received formal admission to a specific program of study that will lead to a master's degree in one of the many disciplines available at CSULB.

Post-Baccalaureate status is further subdivided between Post-Baccalaureate: Unclassified and Post-Baccalaureate: Classified.

A Post-Baccalaureate: Unclassified student usually attends for professional and/or for personal enrichment only. Schools and departments with a large enrollment of graduate students sometimes restrict admission to undergraduate courses as well as graduate courses.

A Post-Baccalaureate: Classified student is one who has been admitted to a credential program in the School of Education or in a certificate program. Students interested in earning a credential or certificate should consult with the Credential Office, School of Education.

Candidates for public school service credentials at the University are advised to familiarize themselves with the requirements for these programs. Descriptions of credential programs appear in the Credential Advisement Handbook. Specific information and applications to individual programs are available in program offices of the School of Education and departmental offices through which they are offered. Application for student teaching and for field work in credential programs must be filed by October 1 for spring semester and March 1 for summer session and fall semester.

Graduate status is subdivided into three categories: Conditionally Classified, Classified, Advanced to Candidacy, depending on whether or not certain University and departmental requirements have been met.

Graduate students in these categories usually may enroll in 500-level courses, although in some programs enrollment is limited to the Classified student. Graduate students usually must follow a specific course of instruction identified to them by the department Graduate Coordinator and described for the individual department in the Courses of Study section of this catalog.

### Requirements for Admission

#### Admission to the University

In order to be admitted to CSULB as either a Post-Baccalaureate, Unclassified student or as a Graduate student, students must meet the following requirements:

1. Have a baccalaureate degree from an accredited university or college.
2. Have been in good standing at the last institution attended.
3. Have at least a 2.5 grade point average in the last 60 semester units attempted, independent of when the baccalaureate was granted. The entire semester or quarter in which the 60 units began will be used in this calculation. Lower division courses or courses taken in extension (except in concurrent enrollment at CSULB in the upper division), after obtaining the bachelor's degree, will be excluded from the calculation.



Students wishing to enroll in the University will follow the instructions supplied by the Office of Admissions and Records in the Admissions section of this catalog. Once applications are received, they will be evaluated at appropriate offices, and students will be advised whether or not they have been accepted into the University.

The student must request all institutions of higher learning attended to send an official copy of transcripts directly to the Office of Admissions and Records, and where applicable, to the appropriate School director or Department adviser of graduate studies. Transcripts presented to the Admissions Office by the student are not acceptable. Graduates of California State University, Long Beach must follow these same procedures when making application to a graduate program.

### 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 (A = 4.0) in the last 60 semester (90 quarter) 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 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 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 he or she 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.

### Graduate Studies

Graduate study is primarily designed to inspire independence of mind and originality in the quest for knowledge, truth, and useful application. Candidates for a master's degree are required to demonstrate mastery in their chosen field of study either through independent research culminating in an acceptable thesis and/or through successfully passing a final comprehensive examination.

Graduate curriculum is designed to provide the student advanced study in a discipline. All courses listed in a master's degree program, including those outside

the major field, must be graduate or upper division courses approved by the student's graduate committee and department graduate adviser.

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 is required for a student to receive a master's degree.

A student who plans to become a candidate for a master's degree must hold a bachelor's degree from an accredited institution or have completed equivalent academic preparation as determined by the appropriate department and/or school. The student must have completed undergraduate coursework substantially equivalent to that required at California State University, Long Beach in the discipline of intended graduate study, or must be prepared to undertake additional work to make up any deficiency. Most graduate programs are based upon preparation in the discipline at the undergraduate level. Undergraduate preparation is considered adequate if a candidate has met the upper division requirements of this University for a bachelor's degree in the subject matter area of the master's degree program.

### Degrees Offered

#### Civil Engineer Degree

#### Master of Arts Degrees:

Anthropology	Linguistics
Art	Mathematics
Asian Studies	Music
Biology	Philosophy
Communicative Disorders	Physical Education
Economics	Physics
Education	Political Science
English	Psychology
French	Spanish
Geography	Special Major (Interdisciplinary Studies)
German	Speech Communication
History	Theatre Arts
Home Economics	Vocational Education
Industrial Arts	

#### Master of Business Administration Degree

#### Master of Fine Arts in Art

#### Master of Public Administration

#### Master of Public Health

#### Master of Science Degrees:

Biochemistry	Health Science
Business Administration	Mechanical Engineering
Chemistry	Microbiology
Civil Engineering	Nursing
Criminal Justice	Physics
Counseling	Psychology
Electrical Engineering	Recreation Administration
Engineering	Special Education
Geological Sciences	Special Major

Refer to specific departments in the Courses of Study section of the catalog for detailed requirements of each program.

## Admission to the Department as a Graduate Student

### Classified Status

Students who have been admitted to the university at the post-baccalaureate level are considered unclassified. In order to pursue a credential or master's degree they must be accepted by the department offering the program. In some instances (see specific department listing) this process may require a separate application being made to the department. Following review the department will determine whether or not the student meets its requirements for admission to its program. Those students who meet all departmental and University requirements will be admitted as Classified graduate students in that program.

### Conditionally Classified Status

Students who do not meet all requirements may, nevertheless, be accepted by the department as a Conditionally Classified graduate student, subject to meeting various University and departmental requirements for Classified status.

## Advancement to Candidacy

### Prerequisites

Advancement to Candidacy is the next step after achieving Classified Status and signifies approval of a plan of study by the student's major department and school or the Dean of Graduate Studies. The prerequisites to advancement to candidacy are:

1. Classified status.
2. Satisfactory completion of the CSULB Graduation Writing Proficiency Examination. Information is available in the Testing Office (SS/A-216).
3. A 3.0 grade point average or higher in all work (at least 6 units) undertaken since admission to the program.
4. Completed all qualifying examinations.

### The Program

A student must consult with the graduate adviser of the department to prepare a tentative degree program. After completing prerequisites and other requirements, the student must formulate an official program and apply for advancement to candidacy.

The department will assign the student a faculty adviser who should be consulted about preparing a degree program. The adviser should have an official evaluation of the student's previous work from the Office of Admissions and Records, although transcripts provided by the student may be used to develop a tentative program and discuss degree requirements. When the Admissions Office's evaluation and the results of tests are available, the faculty adviser can assist each student in drawing up a master's degree program. This program must be approved by the student's faculty adviser, the departmental graduate adviser, and school dean or director of graduate studies or the Dean of Graduate Studies. The program must list the following:

1. Courses required for removal of undergraduate deficiencies
2. All courses taken prior to advancement to candidacy which are to apply toward the 30-unit minimum
3. Required courses
4. Elective courses

The official degree program as approved serves as a basis for the Records Office's graduation check which is required before the degree can be granted. Students who have not been advanced to candidacy are subject to all changes as published in the *Bulletin*, *Policy Statements* and certifications.

Graduate degree programs may be revised as the student advances toward the degree. Such revisions must be recommended by the faculty adviser and approved by the departmental graduate adviser and the school dean or director of graduate studies or the Dean of Graduate Studies.

An approved graduate degree program remains in effect as long as a candidate is making satisfactory progress. To insure minimum satisfactory progress toward the degree objective, the student must enroll in at least one session during any 12-month period and complete all degree requirements within seven years of initiating the program. The student may not change the graduate major without filing a new degree program.

A student entering military service after having been admitted to candidacy for an advanced degree will be considered as not having withdrawn from candidacy, provided that the student is inducted, enlisted or called to active duty during a semester in which he is enrolled or not more than one semester thereafter, and provided that the student enrolls for work toward a degree within one calendar year of the date of release from service.

A department or school recommends a student for advancement to candidacy by forwarding a graduate degree program for approval to the school dean or director of graduate studies or the Dean of Graduate Studies. After the student's degree program has been processed and approved, a copy of the completed program and a letter advancing the student to candidacy will be mailed to the candidate, with copies filed with the department or school and the Records Office.

A student must be enrolled in the semester or summer session in which advancement to candidacy takes place, and this must occur no later than one semester or summer session prior to completion of course requirements.

## Thesis

A student may register for course 698 (Thesis) only when that student has been advanced to candidacy for the Master's degree, or unless advancement to candidacy will occur in the semester in which initial registration for 698 occurs. Prior to registration in 698, the student must have conferred with the departmental graduate adviser and the appropriate faculty members to establish an officially appointed thesis committee and to agree upon a thesis topic.

A thesis will be undertaken only by an individual student. It is strongly recommended that students maintain continuous enrollment in course 698 until the work is completed for a total of not less than four nor more than six units of credit as specified in the student's approved graduate program. Final grade for the thesis will be officially recorded only after all the following steps have been completed: (1) the faculty thesis committee has signed the approval page, (2) the Thesis Reviewer (who is located in the Library, Room 305W) has approved the thesis format, (3) the dean of the school has received the thesis for the University.

Students should check with the Thesis Reviewer for the deadline dates for submission of theses. These dates are usually four weeks prior to the deadline for submission of final grades for the Fall and Spring semesters and two weeks before the end of the appropriate summer sessions. For departments requiring an examination on the thesis, the results of this examination must be reported prior to the end of the semester in which the student expects to receive the degree.

All theses must conform to the regulations specified in the document titled, *Policies for Format of Theses*, available in the office of the thesis reviewer. In addition, it should be determined whether the cognizant department or school has approved the use of William G. Campbell and Stephen V. Ballou, *Form and Style: Theses, Reports, Term Papers, American Psychological Association Manual*, or Kate L. Turabian, *A Manual for Writers of Term Papers, Theses, and Dissertations*, all of which are approved by the University Graduate Council. In certain departments there are specific instructions on matters of style beyond those described in *Policies for Formats of Theses* which are described in departmental or school brochures. Questions regarding special requirements for the preparation of manuscripts should be directed to the departmental graduate adviser, school directors of graduate study, or the Thesis Reviewer. The number of copies of the thesis and their disposition is detailed in *Policies for Format of Theses*.

### Thesis Committee

A student's thesis committee shall consist of at least three members; at least two shall be full-time faculty members at CSULB. Composition of the thesis com-



mittee shall include (1) a full-time faculty member, usually from the department conferring the degree, who shall serve as chair of the thesis committee; and (2) at least one person qualified in the area of the thesis topic who need not be the thesis committee chair. The committee shall be responsible for the guidance of the student throughout the thesis effort. Any change in the committee's composition requires justification and must be approved by the appropriate department graduate adviser and/or school dean or director of graduate studies.

#### Grading Practices

The committee determines the grade for the thesis; the chair is responsible for canvassing the committee and reporting the grade. Only after the thesis has been completed, and after the committee has signed the approval page, shall the grade be submitted.

#### Comprehensive Examination

Each department or school requiring a final comprehensive examination determines the content of the examination. Such examinations may be written or oral or both. A faculty committee shall represent the department in preparing questions, administering, and reading the examination. Through the comprehensive examination, the faculty provides an opportunity for the master's degree candidate to demonstrate knowledge of the discipline and analytic ability. Working with the department chair or dean of the school and the appropriate committee, the departmental graduate adviser usually assumes responsibility for scheduling the examinations and for selecting the other faculty members to participate.

Students may not enroll for courses in preparation for the comprehensive examination or take the comprehensive examination unless they have been advanced to candidacy for the master's degree or unless advancement to candidacy will occur in the semester in which the enrollment takes place.

During the first semester of residence, the graduate student should ascertain from the faculty adviser what preparation will be expected. Early in the final semester of study for the degree, the candidate should contact the departmental graduate adviser to make arrangements for taking the examination. The department or school will notify the Records Office whether the student has passed or failed the final comprehensive examination. A candidate who has failed will usually be allowed to take the final comprehensive examination a second time, and the departmental graduate adviser should be contacted for specific procedures for the second attempt. To award a candidate the master's degree for a particular semester, the results of the comprehensive examination must be reported to the Records Office prior to the end of the semester.

#### University Regulations Governing the Master's Degree

##### General

The requirements for graduation depend upon the particular master's program undertaken and upon the major field of study. Specific departmental requirements are listed in a later section of this *Bulletin*. The following requirements apply to all graduate degree programs.

1. The candidate for a master's degree must earn at least a 3.0 (B) average in all upper division and graduate courses taken at this University after completion of the baccalaureate degree. A course in which no letter grade is assigned will not be used to compute the grade point average. Exceptions to the 3.0 (B) average in all graduate work taken at this University may be made only on the recommendation of the departmental faculty offering the degree, the school dean or director of graduate studies and approval by the University Graduate Council.
2. At least a 3.0 (B) average must be maintained in the major.
3. No course with a grade lower than C may be applied toward the fulfillment of degree requirements.

4. The program for the master's degree must contain a minimum of 30 units in upper division and graduate courses. A minimum of one-half of the units required for the degree shall be in the 500 and/or 600 level series and these shall be completed at this University, consistent with departmental requirements. Student teaching cannot be included in any master's degree program. Upper division courses (300-400 level) eligible for inclusion in master's degree programs are marked with an asterisk in the department course listing sections.
5. A thesis and/or final comprehensive examination must be completed. A minimum of four and a maximum of six semester units shall be allowed for a thesis. Failure of the comprehensive examination or thesis requirement is failure of both options. Thus, a student failing the comprehensive examination may not proceed to the thesis option or vice versa. Once a student has completed a semester of enrollment towards fulfillment of either the comprehensive examination or thesis option, the student may not change from one option to the other without the approval of the faculty concerned, of the department chair and of the appropriate dean or designee.
6. Not less than 24 semester units shall be completed in residence at the University. The Dean of Graduate Studies may authorize department/school approved substitution of credit earned by alternate means for a part of the residence requirement. All units, including continuing education or extension, accepted by transfer for application toward the minimum 30/36 units required for a master's degree cannot be used to fulfill the minimum unit requirements in the 500/600 series. This 500/600 unit requirement must be completed in the major discipline and in residence at this University.
7. All requirements of the degree program must be completed within seven years of the date the program was initiated. An extension of time beyond the limit may be granted by the Dean of Graduate Studies if warranted by individual circumstances and if the outdated work is validated by comprehensive examination in the relevant course or subject field work, or such other demonstration of competence as may be prescribed by the department and/or school.
8. A graduate student who expects to receive a degree at the end of any semester or summer session *must be enrolled during that semester or session and must complete the Graduation Application Card within the first three weeks of classes of the prior semester*. Students completing their degrees in May or in the following summer sessions should file the application by the preceding October 1. Students completing their degrees in January should file by the preceding February 15 at the Admissions and Records Office. Note: Graduate Studies 700 may be used to fulfill the enrollment requirement if the applicant has completed all degree program coursework prior to the semester of graduation.

#### Academic Load

Twelve units per semester is a normal academic load for a full-time graduate student engaged in study toward a master's degree. If a candidate wishes to exceed this limit, it should be discussed with the departmental graduate adviser. The maximum load for graduate students working toward a master's degree is 16 units per semester. Students who are employed full-time should not exceed six units per semester.

Graduate students who wish to register for more than one unit of credit per week of attendance during the summer session must secure advance approval from the school dean or director of graduate studies. Petition forms and information may be obtained in the school offices.



## Extension/Continuing Education and Correspondence Courses

At the option of the school or department offering an advanced degree a total of six units of approved extension/continuing education or transfer credit is acceptable on master's degree programs. Extension courses completed at campuses including California State University, Long Beach shall be acceptable within the six-unit transfer limit provided the work can be properly evaluated and the course is acceptable as graduate work for an equivalent graduate degree on the campus where taught. Extension/continuing education and transfer course material shall be evaluated and approved by CSULB faculty teaching in the topic area in conjunction with the department graduate adviser and school dean or director of graduate studies. Final approval/disapproval shall be the responsibility of the Dean of Graduate Studies.

Extension/continuing education credit may not be used to reduce the minimum units required in a discipline for a master's degree, nor may excess grade points earned in extension classes be used to offset a grade point shortage in the total graduate record.

Grades earned at another institution may not be used to offset grade point deficiencies in courses taken at this University. However, grades of C earned at another institution in courses transferred to satisfy subject matter requirements for an advanced degree at this institution must be balanced by grades of A at this University to meet the required 3.0 (B) overall average.

Credit earned by correspondence or by examination may not be used to satisfy master's degree requirements.

## Graduate Credit Earned as a Second Semester Senior

Graduate credit usually may not be earned in advance of the baccalaureate degree. However, based upon faculty recommendation, academic performance (usually 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 course work in the 300, 400 and 500 level taken at this university to his/her prospective graduate program, subject to the following conditions: (a) the course work must be *in addition to* that required by the department or school for the undergraduate major; (b) the undergraduate student must have a "Petition to Earn Graduate Credit in the Senior Year" approved by the departmental graduate adviser and the Dean of Graduate Studies or the Directors of Graduate Studies of the Schools of Applied Arts and Sciences, Business Administration, Education, Engineering, Humanities or Natural Sciences.

In those areas in which graduate credit is for a credential only, the petition must be filed with the Associate Dean, School of Education. A copy of the approved petition is to be forwarded to the Registrar.

All petitions must be approved by all offices before registration in the classes is permitted.

## Waiver of Course Requirement and Credit by Examination

No waiver of course requirements or credit by examination may be used to satisfy master's degree requirements. However, the following rules govern course waivers or credit by examination in satisfying prerequisites for admission to candidacy in any master's degree program.

Any candidate for a master's degree who believes that previous training has provided adequate preparation in a certain area may request a waiver by examination of a specific course prerequisite. Request for such waivers must be made to the department concerned and all such examinations must be approved by the department chair and graduate adviser.

A candidate may also apply for course credit by examination. Such course credit applies only to prerequisite courses and may not be used to satisfy any of the requirements for the master's degree. Requests for such examinations must be

made to the department concerned and approved by the department chair. No more than 15 semester units of credit by examination will normally be permitted to satisfy such prerequisites.

All course credit by examination will be recorded as P (Pass) and will not be included in calculation of grade point averages; such credit may not be used to remove a grade of D or F in a course already attempted, nor may course credit by examination be granted for any course which is a prerequisite to one for which credit has been received. The grade of F will be included in the record of any student who requests an examination for course credit and then fails the examination. This grade may not be removed by subsequent examination for credit, and the course must be registered for and successfully completed if required as a prerequisite.

Examinations are interpreted broadly to include whatever activity, test or demonstration the instructor deems appropriate for evaluating understanding, skills, or knowledge required by the objectives of the course. Instructors currently teaching the course shall evaluate and ascribe credit. In semesters when the course is not offered, an instructor who has previously taught the course will assume this responsibility. A score of B or better is necessary to receive a P (Pass) grade, and all examinations for credit or waiver of a specific course prerequisite must be filed in the department or school and available to authorized personnel.

Credit by examination is restricted to courses published in the *Bulletin*.

## Credit-No Credit Grading

Graduate students may enroll in upper and lower division coursework on a credit-no credit basis providing departmental regulations do not prohibit this option. For graduate students a grade of at least B will be considered a CR grade in upper division work (300-400 series courses) and a grade of at least C will be considered a CR grade in lower division work (100-200 series courses). No formal limitation is imposed on the number of upper division courses in which a graduate student may enroll for CR/NC; however, the CR/NC option may not be applied to any coursework included on the master's degree program submitted for advancement to candidacy. A student may, however, apply a maximum of six units of fieldwork, practicum and/or internship courses to the master's degree, all or part of which may be taken CR/NC. The CR/NC grading is not applicable to 500/600 series courses with the exception of student teaching and field work courses.

## Election of Regulations

Graduate students advanced to candidacy will be held responsible for the regulations governing master's degrees in effect at the time of advancement or at the time the last requirement for the degree is met, whichever is more conducive to the student's course of study. A change in master's degree objective or readmission to a graduate program following withdrawal requires that a new degree program be filed under the current graduate policies as published in the latest edition of the *Bulletin*.

## Change of Objective

Evaluation of credits transferred to the University is based in part upon the objective indicated on the application for admission. Candidates desiring a change in graduate objective from that indicated on the original application must follow these procedures:

- (1) obtain a *Petition to Change Objective* form in the Records Office;
- (2) obtain the signatures of the faculty adviser, the graduate adviser, and/or the chair of the department or dean of the school or designee in which registration will occur, and
- (3) submit a graduate program in the new discipline.

## Second Master's Degree

A graduate student who holds a master's degree from this or any other accredited institution but desires to become a candidate for a second master's degree in a field from this University is subject to the following regulations:

1. All admission requirements of the University/School/Department must be met (all general regulations listed in the *Bulletin* apply to the second master's degree).
2. Enrollment and approval of candidacy for the second degree will be granted only after the first degree has been completed and awarded.
3. All requirements for the new degree must be completed.
4. After awarding of the first master's degree, a minimum of 24 units of graduate residence credit must be earned at this University including the minimum of 500/600 series units mandated by the major department in which the student is earning the second master's degree.
5. No more than six units earned on the first degree may be applied to a second master's degree program.
6. Prerequisites for an advanced course must be completed prior to enrollment in the advanced course. No course credit will be granted for a course which is a prerequisite to one for which credit has been received.
7. All prerequisites must be completed prior to application for candidacy.
8. Two master's degrees cannot be awarded concurrently.
9. The area or discipline in which the second degree is earned shall be designated on the transcript and a second diploma awarded.

## Academic Probation and Disqualification

For purposes of determining eligibility to remain at the University, both quality of performance and progress toward the student's objective will be considered. Eligibility will be determined by use of grade points and grade point average.

Students who are enrolled in a graduate degree program in conditionally classified or classified standing will be subject to academic probation if they fail to maintain a cumulative grade point average of at least 3.0 (grade of B on the five-point scale) in all units attempted subsequent to admission to the program.

Graduate or post-baccalaureate students will be subject to disqualification if while on probation they fail to earn sufficient grade points to be removed from probationary status. Disqualification may be either from further registration in a particular program or from further enrollment at the campus as determined by the appropriate department and/or school.

An unclassified student who fails to maintain a cumulative grade-point average of 2.5 on all units attempted and on all units attempted at the University will be placed on probation.

A student on probation who, prior to the beginning of the next fall term, fails to attain a cumulative grade-point average of 2.5 on all units attempted and on all units attempted at the University will be disqualified. A student who at any time is reported to the Scholastic Standards Committee as deficient in scholastic achievement is subject to disqualification.

A student who is disqualified because of scholastic deficiency may petition the Scholastic Standards Committee for readmission only after an absence of two semesters or upon successful completion of summer session courses which remove the grade-point deficiency.

Petitions for readmission must indicate the reason for requesting readmission and must include a statement of any academic work successfully completed since disqualification or of any other activity which gives evidence in support of the petitioner's belief for readmittance. An application for admission and required transcripts, as well as the petition, must be submitted to the Office of Admissions before the dates established by the University for filing applications.

Every graduate student who has been advanced to candidacy is expected to maintain an average of at least three grade points per unit (B) in all upper division

and graduate courses attempted. Candidacy for an advanced degree may be revoked if a student's overall grade-point average falls below 3.0 at any time. Students who become subject to dismissal from an advanced degree program will be notified of the action taken by the school director of graduate studies or the Dean of Graduate Studies.

## Grievance Procedures

The steps required in a grievance are available from the Office of Graduate Studies (SS/A 333).

## Withdrawal from the Degree Program

Students who have been admitted to candidacy for an advanced degree and who complete no courses at this University within a calendar year will be withdrawn from the graduate program.

If a student wishes to resume graduate study after withdrawal, a petition for readmission to the graduate degree program must be filed in the department or school and be approved by the Dean of Graduate Studies.

## Graduate Studies 700

Registration in Graduate Studies 700 (XGS-700) will be restricted to graduate students who have completed *all* other course work and who have been advanced to candidacy, have departmental and school approval and require additional utilization of University facilities to complete their thesis or comprehensive examination. Although no unit credit is added to the student's degree program or transcript, the course is considered as one unit of concurrent enrollment credit for fee payment purposes. A student may not register for a third consecutive semester of XGS-700. Application forms are available from and must be signed by department graduate coordinators. Students must be familiar with the rules governing residency (see previous section on Advancement to Candidacy).

## Certificate Programs and Graduate Study

Students, whether graduates of CSULB or another accredited institution, may complete requirements for and be awarded certificates while in graduate standing.

When certificate programs so provide, 500/600 level courses (except 698) may be used toward the requirements of such certificates. Prerequisites for these courses must be completed prior to registration in 500/600 level courses.

Courses used to meet requirements for the master's degree may also be used to meet certificate requirements when the certificate programs so permit, but such overlap shall not exceed 15 units. Any certificate program that requires or permits graduate courses must receive approval of the University Graduate Council.

## Graduate Study in the International Programs

Students planning to participate and receive unit credit toward a master's degree in an International Program should consult with the graduate adviser in the department of their major and school dean or director of graduate studies before entering the program.

Graduate students who have not been admitted to candidacy for a master's degree and who participate in the International Programs may, upon their return to California State University, Long Beach, petition to have six units earned as resident credit in the International Programs included on their official program for the master's degree. In no case may excess grade points earned in the International Programs be used to bring a grade point deficiency at California State University, Long Beach to the required 3.0 (B) average.

Students admitted to candidacy for a master's degree who plan to participate in the International Program of Studies must obtain permission, prior to beginning their study abroad, to have units earned abroad applied toward satisfaction of their

degree requirements. A candidate's petition to apply units earned abroad must be reviewed and recommended by the department offering the degree. The specific courses to be taken on the foreign campus, thesis research which is to be done abroad, or any other requirements such as examinations to be taken upon the student's return must be listed on the official master's degree program. Usually no more than six units of credit may be transferred to apply toward the minimum 30 units for an advanced degree as a result of participation in the International Program of Studies, but a maximum of 12 units may be allowed by the Dean of Graduate Studies in consultation with the University Graduate Council in a special case.

A copy of the candidate's graduate degree program must be forwarded to the Resident Director, who must certify that any credit earned abroad is appropriate to meet graduate degree requirements.

Pending the faculty's evaluation of the student's work, a Report Delayed (RD) grade will be assigned all courses in which work was completed abroad and which are offered to satisfy requirements toward an advanced degree.

### **The Graduate Dean's List of University Scholars and Artists**

The Graduate Dean's List provides for University recognition of its most outstanding graduate students. Candidates for this honor must have completed a minimum of 12 units of course work applicable to their graduate programs at the University. The annual list is limited to one percent of the University's graduate enrollment. Those honored will be named in the Commencement Program and will receive a certificate from the Dean of Graduate Studies.

# Courses of Study

### **Academic Advising Center**

The Academic Advising Center, located in the east wing of the Library, Room 106, provides a regular staff of faculty and peer advisors to answer questions about this *Bulletin* and other University publications, to interpret curricular rules and regulations, and to guide students in the wise use of the University's academic resources. Since the Center is only designed for general academic advising, students with majors or pursuing other definite programs are better advised to go directly to major or program advisors. Students who have not declared a major are encouraged to look upon the Center as their academic home; and other students who need guidance regarding General Education requirements, electives, curricular rules and regulations, or who are unclear about the missions of a University are encouraged to bring their questions to the Center.

It is open between 8:00 a.m. and 7:00 p.m. on Mondays and Thursdays, and between 8:00 a.m. and 5:00 p.m. on Tuesdays, Wednesdays, and Fridays. If the Center staff cannot resolve the difficulty or provide direction, they will refer students to the appropriate office.

### **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.

Courses numbered 500 through 699 are *graduate courses*. Courses in the 500-599 series are usually open only to students with acceptable baccalaureate degrees. Courses numbered 600 to 699 focus upon methods and techniques of research (696), directed research (697), development of theses (698), and seminars designed to meet requirements for advanced degrees. Only students who have earned acceptable bachelor's degrees may enroll in these courses.

### 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. An asterisk preceding the course title indicates that the course is acceptable for the master's degree. The University reserves the right to make changes in course offerings without notice.

## Extended Education

### Extension

The University offers a variety of the courses from this *Bulletin* as well as many special classes through extended education. A schedule of these offerings is published and 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 Extended 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 offered 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 extended 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 Extended 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.



# Accountancy

## School of Business Administration

**Department Chair:** Mr. Aren Lewis

**Emeriti:** Serafina Q. Gunter, A. Mary McKinnon, William T. Pickel

**Professors:** Andrews, Hickerson, Lewis, Martinelli, Moustafa, Stone, Suttle, Tillman, Williamson.

**Associate Professors:** Berkshire, Chang, Hopewell, LaPage, Myklebust.

**Undergraduate Adviser:** Department Chair.

For all degree requirements see **Business Administration**.

### Lower Division

**201. Elementary Financial Accounting (3) F,S Faculty**

Introduction to financial accounting theory and practice. For business majors.

**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**

Prerequisite: Accounting 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**

Prerequisite: Accounting 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, Suttle, Williamson**

Prerequisite: 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 Hopewell**

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 Faculty**

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 Faculty**

Prerequisites: Quantitative Systems 310 and either Accounting 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 Faculty**

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 Faculty**

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 Myklebust**

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 Faculty**

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 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 Myklebust**

Prerequisites: Accounting 300A and B, 320 with grades 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 Chang**

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.

**\*495. Selected Topics (1-3) F,S Faculty**

Prerequisites: Consent of instructor and a 3.0 grade point average in accounting. Topics of current interest in accounting selected for intensive study. May be repeated for a maximum of six 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 accounting. Individual projects, study and research of advanced nature in accounting.

**Graduate Prerequisite Courses****500. Managerial and Financial Accounting (3) F,S Faculty**

Prerequisite: Graduate standing. Analysis of accounting reports and development of information, consistent with generally accepted accounting principles, of data underlying such reports; evaluation of internal control, systems and procedures; cost accounting. A terminal course. Graduate students starting accounting and planning on continuing in that area should select Accounting 201.

**501. Intermediate Accounting (3) F Faculty**

Prerequisites: Graduate standing, Accounting 201. Accounting theory and practice and report development and presentation. Not open to students with credit in Accounting 300A-B.

**Graduate Division****508. Contemporary Problems in Management Accounting (3) F,S Faculty**

Prerequisites: Accounting 310 or 320 or equivalent, with a grade of "C" or better, or consent of instructor. Examination of the literature on profit planning and control with special emphasis on the relationship of the organizational structure, the behavior of individuals, and limitations of accounting methodology and data for planning and control. The relationship of traditional accounting models to decision making.

**510. Advanced Cost Accounting, Budgeting and Control (3) F,S Chang, Berkshire, Cornwell, Lewis**

Prerequisite: Accounting 320, or 310 with a grade of "C" or better, or consent of instructor. Problems in planning, budgeting and cost control for decision making from a quantitative analysis approach.

**513. Advanced Auditing (3) F,S Faculty**

Prerequisite: Accounting 470, with a grade of "C" or better, or consent of instructor. Extension of the basic auditing course beyond principles and procedures into areas of theory and practice. Additional concern has to do with the forces having an interest in, and an influence on, the external audit process.

**515. Advanced Internal Auditing and Control (3) F,S Faculty**

Prerequisites: Accounting 470 or 475 with a grade of "C" or better, or consent of instructor. Philosophy, principles, procedures, and literature of the internal auditing field. The effect of the Foreign Corrupt Practices Act. The role of internal control and auditing on the management of the business enterprise.



**517. EDP Controls and Audit (3) F,S Faculty**

Prerequisites: Accounting 470 or 475, 480, with grades of "C" or better, or consent of instructor. The development and implementation of control procedures and policies over the computerized environment. A highly technical course designed for accountants and auditors interested in developing skills in computer assisted auditing techniques.

**610. Seminar in Accounting Theory (3) F,S Faculty**

Prerequisite: Accounting 300B or 500 with a grade of C or better. Critical analysis of generally accepted accounting theories and principles.

**612. Seminar in Advanced Tax Law and Accounting (3) F,S Faculty**

Prerequisite: Accounting 450 with a grade of C or better. Tax planning and estate conservation and research.

**614. Seminar in Accounting Management and Controllorship (3) F,S Myklebust**

Prerequisites: Accounting 400 with a grade of C or better and Management 425 or 500; or consent of instructor. Critical analysis and evaluation of controllorship function and other line and staff functions involved in financial management.

**616. Seminar in Contemporary Accounting Problems (3) F,S Berkshire**

Prerequisite: Graduate standing in business administration. Acquaint students with problems confronting the accounting profession in the areas of theory, application and certification; including future impact of solutions being effected and future direction of the profession.

**695. Special Topics (3) F,S Faculty**

Prerequisites: Consent of instructor. Topics to be announced in the *Schedule of Classes*. May be repeated once under a different topic.

**697. Directed Studies (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Individual study under the direction of the faculty.

# American Indian Studies

School of Social and Behavioral Sciences

**Director:** Mr. Richard W. Band

**Associate Professor:** Band, Clark

**Recruitment and Retention 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 undergraduate adviser 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 303, 304, 305, and any other such course offered by the program.
  - d. Upper division community studies course (three units), American Indian Studies 310, 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, 349, History 473, and any other related course approved by the undergraduate adviser. (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 303, 304, 305; American Indian Studies 310; three units selected from an American Indian Studies course, Art 411C, Anthropology 321, 322, 347, 349, History 473.

**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.

**200. Contemporary Issues in American Indian Studies (3) F, S Band**

Current issues: the relevance of treaties, self-determination and sovereignty, assimilation and traditionalism, conflicts with local governments and corporate interests, the development of economic resources (coal, uranium, oil, gas, timber, water), the roles of women, traditional philosophy, political movements, and additional topics of interest to the class.

**297. Fieldwork in American Indian Studies (3) F, S Band**

Prerequisites: Lower division standing, consent of instructor. Supervised experiences relevant to specific aspects of the American Indian community in off-campus settings. Regular meetings with faculty supervisor and written reports required. Must be taken Credit/No Credit.

**Upper Division**

**303. California Indian History (3) F, 1982 and every third year Clark**

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, 1981 and every third year Clark**

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) F, 1983 and every third year Clark**

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.

**310. American Indian Community Development (3) S Faculty**

Overview of the economic structure of Indian reservations and Indian urban communities, describing in detail the economic base and development of resources. Attention will be given to the historical interplay of Indian resources and non-Indian resources and the possible future of this interplay, especially in the light of Indian demands for sovereignty.

**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**

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.

**339. American Indian Psychology (3) F, 1981 and alternate years Faculty**

Indian behavior will be studied at the level of the individual person, rather than at the more commonly used level of general culture. Areas to be covered include self-concept, Indian reactions to prejudice special problems in adjustment that have led to drug and alcohol abuse, personality and contemporary life styles, and issues in education.

**340. American Indian Literature (3) F Clark**

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) F, 1982 and alternate years Faculty**

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.)

**361. American Indian Education (3) S Band**

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.)

**370. American Indian Women (3) S, 1982 and alternate years Clark**

Overview of the role of women in traditional Indian societies and in the modern world. Changes in Indian societies occasioned by contact with Europeans and how these changes have altered sexual role definitions will be examined. (Lecture-discussion 3 hours.)

**380. Law and the American Indian (3) S, 1983 and alternate years Faculty**

The concept of tribal sovereignty, involving the relationship of tribal governments, will be examined through the historical development of the case law. The powers of tribal governments will be studied, including problems of jurisdiction, taxing and civil rights. (Lecture-discussion 3 hours.)

**383. Healing and Health: American Indian Concepts and Practices (3) S, 1982 and alternate years Faculty**

Analysis of American Indian healing techniques and their relation to traditional Western Civilization and its practices of healing and health theory. Necessary interweaving of thoughts and practices as new programs are being fostered and experimented with by the American Indian Public Health Service and other health organizations.

**385. American Indian Leaders (3) F, 1981 and alternate years Faculty**

Overview of the diverse philosophies of the leaders of various Indian nations, the political, sociological and religious aspects of their lives and the conditions that cause them to rise to power. Attention will be given to the impact of Indian-White relations. (Lecture-discussion 3 hours.)

**420. American Indian Studio Art (3) F, 1982 and alternate years 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) F, S 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.

# American Language Program

## School of Humanities

**Program Director: Dr. Jacqueline Neufeld**

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. The Examination in English as a Second Language at CSULB is required of all visa students for whom English is the second language they have learned, and also for similar immigrant refugee students and citizens. Exemptions from this test are granted only if English is the student's first language or if the student entered the United States more than 10 years ago. Evidence of course work taken at other schools is not considered in granting exemption from this examination, although it will be considered in evaluating requirements for graduation. Students should take the examination as early as possible, but definitely before registering for classes at CSULB.

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

**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: Speech and Communication (3) F, S Faculty**

Study of English as a second language, emphasizing rhetoric and oral style. Five class hours per week.



**135. American Language Program I (6) F,S Faculty**

Prerequisite: Examination in English as a Second Language (EESL). Intensive study of ESL emphasizing language functions necessary for acculturation into American society: oral interaction, listening perception, composition, grammar and reading. All language functions will be presented in the context of topics of current interest.

**140. American Language Program II (6) F,S Faculty**

Prerequisite: EESL score of 400 or ALP 135. Intensive study of ESL emphasizing language functions necessary for acculturation into American universities: oral interaction, listening perception, composition, grammar and reading. All language functions will be presented in the context of topics of current interest in the social sciences. Eight class hours per week. Not open to students with credit in ALP 121.

**145. American Language Program III (3) F,S Faculty**

Prerequisite: EESL score of 450 or ALP 135. Study of ESL emphasizing the essentials of paragraph organization and critical/analytical reading. Four class hours per week. Not open to students with credit in ALP 122/123.

**150. American Language Program IV (3) F,S Faculty**

Prerequisite: EESL score of 500 or ALP 145. Further study of ESL critical/analytical skills in reading and expository writing. Students' writing skills will be developed to produce clear written English.

# American Studies

## School of Humanities

**Program Director:** Dr. Nancy Weiss

**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 study of American culture. The American Studies Program offers a major leading to the bachelor's degree, a minor, a single subject teaching credential (in cooperation with English), Liberal Studies concentration and general education courses. Most students majoring or minoring in American Studies are interested in both (1) studying American culture as a whole from several disciplinary perspectives and (2) studying in depth a problem or theme according to individual choice. Reflecting these two interests, the major consists of a six course *core* sequence and a five course *elective pattern* that centers on one theme or problem.

The American Studies Program is governed by a committee of faculty from various departments and schools who also serve as advisers. Students majoring in American Studies confer with advisers to plan their programs, which are recorded on official advising forms.

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 careers in law, journalism, public service, government, business and teaching. 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 33 units distributed as follows:  
**Six core courses:** American Studies 300, 477A,B, 490, 498, and one course in American literature chosen from English 370A,B, 474, 475, 476, 477A,B. The student chooses one of the following topics or themes and with an adviser (who will have an up-to-date master list of appropriate courses) plans a coherent five course sequence with no more than two courses coming from any one department:

- A. American Institutions
- B. American People
- C. Women in America
- D. American Environment

- E. Arts and Communication in America
- F. American Mind
- G. Student Designed Pattern. In place of one of the above topics or themes, the American Studies major, with the approval of the adviser and the program director, may design a sequence of courses focusing on a topic, theme, or problem in which he or she is particularly interested.

**Minor in American Studies (code 0-6004)**

A minimum of 18 units, including 12 in American Studies (300, 477A,B, and 498) and 6 or more chosen from at least two of the following categories:

- A. American Studies 490.
- B. English 370A,B, 474, 475, 476, 477A,B.
- C. Art 413A, 413B, Music 393.
- D. Geography 306, Political Science 308, Sociology 445, Ethnic Studies.

**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*. May be repeated for credit with a different topic to a maximum of six units.

**Upper Division**

**300. Introduction to American Studies (3) F,S Weiss**

Interdisciplinary approaches to the study of American civilization. Significant issues and problems in American life will be examined from the perspectives of several disciplines.

**477A,B. American Cultural History (3,3) F,S Berk, Higgins, Stuart**

Development of a distinctive American way of life treated in terms of values, behavior, and institutions. Themes of individualism, community, ethnic diversity, and social reform seen within the changing complex of national character. (Same course as History 477A,B.)

**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) S 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.

# Anthropology

## School of Social and Behavioral Sciences

**Department Chair:** Dr. Eleanor Bates.

**Emeriti:** Carol F. Eckhardt, Ethel E. Ewing, Harold H. Key, H. Thomas McCorkle, Douglas Osborne, William J. Wallace.

**Professors:** Bates, Dixon, Fenenga, Kershaw, McCone.

**Associate Professors:** Gregory, Harman, Libby, Ruyle, Shermis.

**Undergraduate Adviser:** Dr. Dorothy Libby.

**Graduate Adviser:** Dr. Eleanor H. Bates.

The undergraduate 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.

The Department of Anthropology offers graduate study leading to the master of arts degree. The degree program provides for students: (1) wishing to expand their knowledge and increase their competence in the field of anthropology, (2) seeking teaching credentials where the master's degree is required, (3) preparing for further graduate work elsewhere. Candidates are responsible for observing the general requirements for the M.A. stated in this *Bulletin*. A *Handbook for the Master's Degree in Anthropology* is available from the department upon request. It is recommended that the prospective candidate contact the graduate adviser of the department for assignment to a faculty adviser before embarking on course work.

Graduate assistantship and departmental reader positions are sometimes available to qualified students.

**Major in Anthropology for the Bachelor of Arts Degree (code 2-8505)**

**Lower Division:** A minimum of six units selected from Anthropology 110, 120, 140, 170; recommended, Psychology 100, Sociology 100, Geology 100, 102, 103, Biology 200.

**Upper Division:** A minimum of 30 units as follows: Anthropology 311A,B, 312A or 312B, 302; six units of bio-cultural theory selected from Anthropology 317, 318, 319, 350, 363, 411, 430, 436, 439, 440, 490A; six units of comparative societies selected from Anthropology 321, 322, 323, 324, 331, 332, 335, 336, 341, 342, 345, 347, 349, 362, 490B; three units of contemporary issues selected from Anthropology 351, 352, 353, 354, 421, 455, 469, 490C; three units of methods selected from Anthropology 315, 316, 450, 451, 460, 480A, 480B, 485; and in consultation with adviser, six upper division units from any behavioral or social

science department outside Anthropology. These courses shall be in addition to courses selected to fulfill the requirements of any General Education category.

#### Minor in Anthropology (code 0-8505)

The degree minor in anthropology requires a minimum of 21 units and must include:

*Upper Division:* Anthropology 311A,B; 15 units selected in consultation with the undergraduate adviser in anthropology to meet specific needs of the student.

#### Master of Arts in Anthropology (code 5-8505)

##### Prerequisites

1. A bachelor's degree in anthropology, or;
2. A bachelor's degree with 24 units of upper division courses in anthropology, comparable to those required of anthropology majors at this University.
3. Students whose undergraduate work in anthropology seems inadequate will be required to fulfill specific undergraduate deficiencies before admission to candidacy. Deficiencies will be determined by the departmental graduate adviser after consultation with the student and a review of the student's transcript records.

##### Advancement to Candidacy

1. Acceptance into the M.A. program by the department.
2. Satisfaction of the general University requirements for advancement to candidacy.
3. Approval of the candidate's graduate program by the departmental graduate adviser.
4. The candidate must have taken Anthropology 501 (Development of Anthropological Theory) and Anthropology 502 (Proseminar) or equivalent, or must be registered in the courses at the time of advancement to candidacy.

##### Requirements for the Master of Arts

1. A minimum of 30 units with 24 units of upper division and graduate courses in anthropology.
2. At least 21 units in the anthropology 500/600 series, excluding Anthropology 698, (9 of these units may be taken in the core course sequence, see item 4).
3. A reading knowledge of a foreign language, or; familiarity with computer language(s) and use of computers plus appropriate mathematical training, or; statistical training and facility, or; possession of other scientific skill(s) to an advanced degree.
4. A comprehensive examination:
 

Option A — Core Course Sequence and sub-disciplinary comprehensive examinations. The core course sequence includes four courses in Anthropology: Ethnology-Social Anthropology, Archaeology, Linguistics and Physical Anthropology (Anthropology 500, 520, 530, 540). Each core course is an intensive and synthesizing study of one anthropological sub-discipline. Students taking the core course option will take the core courses in those three areas which are not their area of specialization and will then take a comprehensive examination at the termination of each course. Under this option students may also enroll in the core course in the area of their specialization and receive a letter grade based on their performance, as in any seminar, but would not take the comprehensive examination at the end of the course. In their *area of specialization* (or related areas) they will take a minimum of nine other 600-level units and a comprehensive examination.

Option B — Students will take 500/600 level work (including core courses if desired), and take a single comprehensive examination in all fields.

Students should declare their option with the graduate adviser after acceptance into the program.

5. A thesis (Anthropology 698, four units).

#### Lower Division

##### 100. General Anthropology (3) F,S Faculty

General introduction to anthropology including biological and cultural aspects. Recommended for non-majors.

##### 110. Introduction to Physical Anthropology (3) F,S Faculty

Physical nature of human beings; relation of humans to other animals; heredity and principles of biological evolution; human fossils; significance of physical variation in modern populations; 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; the meanings of human nature, cultural universals and cultural differences.

##### 140. Introduction to Archaeology (3) F Dixon, Fenenga

Contributions of archaeology toward understanding the growth and development of human cultures; major discoveries in world-wide prehistory from the Old Stone Age to the Iron Age. Not open to students with credit in Anthropology 240.

##### 170. Introduction to Linguistics (3) F Harmon, McCone

Nature of language; its relation to culture; language structure and processes of change; language universals, contrasts and relationships.

#### Upper Division

##### Biocultural Theory

##### 311A,B. The Human Adventure: Bio-Cultural Anthropology (3,3) F,S Faculty

An integrated view of the field of anthropology; man is viewed as part of a system in which biological, cultural, and environmental factors interact to produce the human adaptations found in the past and present. (Either section open to non-majors; majors must take in sequence.)

##### \*317. Non-Industrial Technology (3) S Faculty

Anthropological examination of the techniques used in making and using tools, weapons and other equipment in the world's traditional cultures; includes stone-working, ceramics, weaving, and metallurgy.

##### \*318. People, Genes and Society (3) S, even years Bates

Genetic background for normal and abnormal human development; population differences; human reproduction, pregnancy, prenatal diagnosis and birth defects in a cross-cultural and evolutionary setting; application to social, moral, legal and ethical problems and to genetic counseling.

##### \*319. Growth, Development and Variation (3) F, 1982 and alternate years Shermis

Analysis of the sequence of events in the development of people from conception to death; organ development; rapid and retarded growth patterns; the processes of aging and death from a broad ethnic and ecological perspective.

##### \*350. Modernizing Traditional Societies (3) F, 1981 and alternate years Gregory

Processes of modernization in traditional societies; emphasis on the dynamic relationships between processes of economic change and changes in other sectors of sociocultural systems or part-systems; includes analysis of case studies.



**\*363. Primate Studies (3) S Shermis**

Description of the several spheres of primatology including gross morphology, taxonomy, phylogeny, behavioral studies and ecology. Not open to students with credit in Anthropology 432.

**\*411. Culture and Personality (3) S, 1982 and alternate years McCone**

Cultural factors in personality development and disorganization; psychological factors in cultural organization and problems of culture contact and change.

**413. Language and Culture (3) S, 1982 and alternate years Harman, McCone**

Relation of language patterns to social life; problems of meaning in cross-cultural communication and language translation; practical application to business, government and religious contacts. Not open to students with credit in Anthropology 440.

**416. Urban Culture: The Anthropology of Complex Societies (3) F Kershaw, Ruyle**

Comparative analysis of development and role of urban centers in ancient and modern cultures; interrelationships of urban and rural populations; patterns of similarity and difference in urbanism of contrasting cultures; implications for a multi-national world.

**\*430. Human Evolution (3) F Bates, Shermis**

Fossil evidence for human evolution with a consideration of the importance of cultural factors. Not open to students with credit in Anthropology 360.

**\*436. Ecology, Disease and Adaptation (3) F, even years Bates, Harman**

Interaction of cultural, biological and environmental elements in human response to disease; emphasis on an ecosystems approach with evolutionary and comparative perspectives.

**\*439. Comparative Religion and Folklore (3) F, 1982 and alternate years Faculty**

A cross-cultural survey of religion and folklore; cultural realities expressed in myth, ritual and world view; theories on origin, meaning and function of myth and ritual.

**\*490A. Special Topics in Bio-Cultural Theory (1-3) F, 1982 and alternate years Faculty**

Topics dealing with bio-cultural theory in anthropology selected for intensive development. May be repeated for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

**Comparative Societies****312A,B. Peoples and Places (3,3) F,S Faculty**

Interaction of culture and the environment in human adaptation viewed from a world-wide archaeological and ethnographic cross-cultural perspective. Not open to students with credit in Anthropology 300.

**\*321. North American Indians (3) F Faculty**

Comparative study of traditional Native American societies, social organization, belief systems and religions, crafts and adaptation to varied environments; cultural changes in response to European contacts.

**\*322. California Indians (3) S Faculty**

Survey of native Californian groups; discussion of the diversity of aboriginal culture prior to western contact as background for analysis of the impact of Europeans; problems of intercultural relations; and the current status of native Californians.

**\*323. Peoples of Mexico and Central America (3) F, 1981 and alternate years Faculty**

Survey of the present day peoples of Mexico and Central America; tribal Indians, peasant communities, village life, the emerging middle class and other social groups; examination of the Indian and Spanish colonial heritage and present day cultural and social changes.

**\*324. Peoples of South America (3) S, 1982 and alternate years Faculty**

Survey of the present day peoples of South America; tribal Indians, peasant communities, village life, the emerging middle class and other social groups; examination of the Indian and Spanish colonial heritage and present day cultural and social changes.

**\*331. Peoples of the USSR (3) S, 1982 and alternate years Libby**

Development of traditional cultural patterns from the ecological and historical perspective; modernization of the peoples of the Soviet Union.

**\*332. Chinese Culture and Society (3) F, 1981 and alternate years Ruyle**

Cultural and social institutions; kinship, family structure, lineage organization, religion, law, politics and economy in traditional, and modern times.

**\*335. Japanese Culture and Society (3) F, even years Ruyle**

Cultural and social institutions; kinship, family structure, religion, law, politics and economy from traditional- to modern times.

**\*336. Peoples of Africa (3) S, 1983 and odd years Kershaw**

Survey of the peoples of Africa; social and cultural organization in 19th and 20th centuries; problems of colonialism and development.

**\*341. Prehistoric Cultures of Europe (3) F, 1981 and alternate years Faculty**

European archaeology from the Stone Age; cultural adaptation to environments, migrations of peoples, influences from Asia and Africa; problems of culture reconstruction from ancient remains.

**\*342. The Rise of Civilizations in the Middle East (3) S, 1983 and alternate years McCone**

Origin and growth of early civilizations including Egypt, Mesopotamia, Greece, Turkey and India; analysis of growth patterns, comparative study of religious, social and political institutions.

**\*345. Ancient Civilizations of Mexico and Central America (3) S, 1983 and alternate years Dixon**

Origin and growth of the Aztec, Maya and other civilizations of Mexico and Central America.

**\*347. Prehistoric Cultures of North America (3) S, 1982 and alternate years Dixon, Fenenga**

Archaeological evidence of origin and growth of the native American cultures north of Mexico; regional cultures and broad continental patterns of development.

**\*349. The Prehistory of California and the Southwestern United States (3) F, odd years Dixon, Fenenga**

Development of the native cultures of California and American Southwest from the earliest human occupation to the historic period.

**\*362. Biblical Archaeology (3) S, 1982 and alternate years Faculty**

Archaeological view of the Biblical era; the language, people and culture of Biblical times and places in light of current archaeological finds.

**\*490B. Special Topics in Comparative Societies (1-3) F, 1982 and alternate years Faculty**

Topics of current interest dealing with comparative societies selected for intensive development. May be repeated for up to six units. Topics to be announced in the *Schedule of Classes*.

**Contemporary Issues****\*351. Sex Roles and Culture (1) F Gregory, Libby**

Interaction of biological, cultural and historical factors on male/female roles and status in traditional and contemporary cultures and societies.

**\*352. Alternative Styles of Aging (3) S Faculty**

Cross-cultural survey of the different ways cultures define the aging process. Special attention to the roles and statuses based on age and sex over the life cycle and the values attached to these by different cultures. Various theoretical approaches in gerontology are evaluated in light of the cross-cultural data.

**\*353. Health and Healing (3) S Harman**

Analysis of health, illness and healing within ethnic groups of the United States and other settings. Examination of magic, witchcraft and alternative systems of health care. Not open to students with credit in Anthropology 419.

**\*354. Communications across Cultures (3) F Faculty**

Considers the potential conflicts reflected in language, gestures, time and space as encountered by business people, immigrants, tourists and diplomats in the social, material and religious spheres of today's culture.

**\*421. Education across Cultures (3) S, 1983 and alternate years Faculty**

Cross cultural perspectives on education in modern society; problems in education of non-western peoples by those from western cultural backgrounds.

**\*455. Inequality and Social Organization (3) S, even years Ruyle**

Organizational forms from kinship to bureaucracy; organizational complexity and inequality in bands, tribes, feudal caste and class systems.

**\*469. Conservation Archaeology (3) Faculty**

Practical and theoretical issues in the conservation of prehistoric and historical resources, with an emphasis on their long-range preservation and management for the greatest scientific, historic and public benefit; research design, legal obligations, field strategies, significance evaluation, analysis of adverse impacts, methods of impact mitigation, scientific research obligations; analysis of case studies.

**\*490C. Special Topics in Contemporary Issues (1-3) F, 1981 and alternate years Faculty**

Topics dealing with contemporary issues in anthropology selected for intensive development. May be repeated for a maximum of six units. Topic- will be announced in the *Schedule of Classes*.

**Methods****302. Quantitative Methods in Anthropology (3) F Bates**

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 402.

**\*316. Strategies in Archaeology (3) S, 1982 and alternate years Dixon**

Survey of archaeological methods for both prehistoric and historic periods; analysis of building remnants, garbage and other material clues to the reconstruction of human behavior; problem-oriented research.

**\*450. Archaeological Field Methods (4) S Faculty**

Methods of recording field data including mapping, drawing and photography; practice in the use of field equipment; participation in local site surveys and excavations when feasible. May be offered on Saturdays.

**\*451. Analytical Archaeology (4) F, 1982 and alternate years Faculty**

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. Ethnographic Methods (4) F Gregory, Kershaw, Ruyle**

Fundamentals of ethnographic research; participant-observation, interviewing, use of informants and related techniques; research design, organization of field materials and report writing. (Lecture 3 hours, activity 2 hours.)

**461. Internship in Anthropology (6) S Faculty**

Prerequisites: Anthropology 460, consent of instructor. Individual, supervised projects designed to assist host agency or organization. (Lecture 3 hours, weekly supervised off-campus study 6-8 hours.)

**\*480A. Osteology (4) S, 1982 and alternate years Shermis**

Instruction in osteology, landmarks and methods in anthropometry and somatology; measurement and analysis of osteological collections, applied anthropometry and somatotyping. (Lecture 3 hours, laboratory 3 hours.)

**\*480B. Serology (4) F, 1981 and alternate years Bates**

Laboratory procedures used in the analyses of genetic systems; blood grouping techniques, immunodiffusion and electrophoretic techniques; recent research and application of genetic data to anthropological problems. (Lecture 3 hours, laboratory 3 hours.)

**\*485. Paleopathology (4) F, 1982 and alternate years Shermis**

Survey of the major skeletal diseases as seen in archaeological populations. Mechanics of orthopedic disease stressed. Will include field trips. (Lecture 3 hours, laboratory 3 hours.)

**General****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) S Faculty**

Prerequisites: Graduate standing in anthropology and Anthropology 502. A systematic examination of method, methodology, theory and content in Ethnology/Social Anthropology. May not be used by M.A. specialists in Ethnology/Social Anthropology for the comprehensive examination.

**501. Development of Anthropological Theory (3) F,S Faculty**

Prerequisites: Fifteen upper division units in anthropology and senior or graduate standing. A systematic survey of the development of anthropology as a scientific field; an examination of the principal ideas and theories of leading anthropologists, past and present. Not open to students with credit in Anthropology 495.

**502. Proseminar (3) F, S Faculty**

Prerequisites: Six units of upper division anthropology courses, consent of instructor. Survey of anthropological research methods, gathering of data, data manipulation and the writing of technical and interpretive reports. Not open to students with credit in Anthropology 498.

**520. Core Course, Archaeology (3) F Faculty**

Prerequisites: Graduate standing in anthropology and Anthropology 502. Concentrates on method, methodology, theory, content rather than technique. May not be used by M.A. specialists in archaeology for the comprehensive examination.

**530. Core Course, Linguistics (3) S McCone**

Prerequisites: Graduate standing in anthropology and Anthropology 502. Concentrates on modern method, methodology, theory and interpretation in linguistics. May not be used by M.A. specialists in linguistics for the comprehensive examination.

**540. Core Course, Physical Anthropology (3) F Bates, Shermis**

Prerequisites: Graduate standing in anthropology and Anthropology 502. Methodology, theory, content and trend in physical anthropology. May not be used by M.A. specialists in physical anthropology for the comprehensive examination.

**597. Directed Readings in Anthropology (1-3) F, S Faculty**

Prerequisites: Senior or graduate standing and consent of instructor. Selected topics in anthropology will be studied in depth. A written report will be prepared.

**600. Seminar in Ethnology and Social Anthropology (3) F, S Faculty**

Topics of substantive and theoretical importance and their application to research problems. May be repeated for a maximum of six units.

**620. Seminar in Archaeology (3) S Faculty**

Prerequisites: Six upper division units in archaeological courses or consent of instructor. Important recent discoveries; contemporary ideas, trends and problems. May be repeated for a maximum of six units.

**630. Seminar in Anthropological Linguistics (3) F Faculty**

Prerequisite: Anthropology 470 or consent of instructor. Areas and methods of linguistic study and research; evaluation and intensive scrutiny. May be repeated for a maximum of six units.

**640. Seminar in Physical Anthropology (3) S Faculty**

Prerequisite: Anthropology 480A and 480B or consent of instructor. Materials and methods of research in human evolution. May be repeated for a maximum of six units.

**697. Directed Research (1-3) F, S Faculty**

Prerequisite: Consent of department. Research in anthropology on an individual basis.

**698. Thesis (1-4) F, S Faculty**

Prerequisite: Consent of department. Planning, preparation and completion of a thesis in anthropology.

# Applied Arts and Sciences

## School of Applied Arts and Sciences

**Dean:** Dr. George T. Felkenes

**Associate Dean, Academic Affairs:** Dr. John J. McConnell

**Associate Dean, Graduate Studies and Research:**

**Administrative Assistant:** Ms. Susan S. Thompson

The School of Applied Arts and Sciences offers a wide range of programs at the undergraduate and graduate levels. Included within the School are nine diverse departments and three separate programs:

Departments	Recreation & Leisure Studies Programs
Criminal Justice	Gerontology
Health Science	Health Care Administration
Home Economics	Vocational Education
Industrial Education	Centers
Industrial Technology	Center for Criminal Justice Research & Training
Nursing	Center for Career Studies
Physical Education	
Physical Therapy	

Curricula are designed to prepare professionals to achieve positions of leadership in their chosen profession.

### Objectives

The School of Applied Arts and Sciences, as a professionally oriented school, is united by the following purposes:

- The academic and professional preparation of students for careers in their chosen field of specialization;
- The development and maintenance of high standards of academic achievement for students;
- The encouragement of critical thinking through rigorous academic and professional preparation;
- The conduct of ongoing research, training, and community involvement by School faculty and students.

### Certificates

Gerontology	Therapeutic Recreation
Health Care Administration	Administration of Volunteer Services
Child Development	Adapted Physical Education
Automotive Supervision	Athletic Training
Graphic Arts Supervision	Community Physical Fitness
Industrial Plastics Processing & Design	Corrective Therapy
Facilities Operations	Psychomotor Therapy
Safety Operations	Coaching

### School Facilities

The facilities in which the School departments and programs function are excellent. The Nursing Department is housed in a new building with modern



classrooms, laboratories, multi-media study carrels, and faculty offices. The Home Economics Department has its offices and all academic activities in a new modern building. The facilities occupied by the Physical Education Department likewise reflect forward planning for students and faculty. The Departments of Industrial Education and Industrial Technology share a three building complex housing the latest in technology laboratories and instructional areas. All other departments and programs in the School occupy modern facilities that are centrally located close to instructional areas, and easily accessible to students and members of the community.

**Professional Accreditation**

Programs in the School have been accredited by the following state and national accrediting agencies:

- Foundation for Interior Design Education Research
- American Home Economics Association
- American Physical Therapy Association
- California State Board of Registered Nursing
- National League for Nursing
- California Council on Parks and Recreation
- National Recreation and Park Association Council on Accreditation
- National Association for Industrial Technology

To achieve these objectives, the School seeks to create an environment at both the undergraduate and graduate levels that encourages student growth by providing:

- A broad educational experience in the liberal arts;
- Specialized instruction leading to professional development and competence, and
- Integration of academic and professional course work to develop the whole person.

**Degrees Offered**

**Bachelor of Arts**

- Home Economics
- Industrial Arts
- Physical Education
- Recreation and Leisure Studies

**Bachelor of Science**

- Criminal Justice
- Dietetics and Food Administration
- Health Care Administration  
(External Degree)
- Health Science
- Industrial Technology
- Nursing
- Physical Therapy

**Bachelor of Vocational Education**

**Master of Arts**

- Home Economics
- Industrial Arts
- Physical Education
- Vocational Education

**Master of Science**

- Criminal Justice
- Health Science
- Nursing
- Recreation Administration

# Art School of Fine Arts

**Department Chair:** Dr. Howard G. Hitchcock.

**Emeriti:** Bela L. Biro, Maxine Merlino, Jane Purcell, Josephine Schultz.

**Professors:** Aall, Archer, Borders, Brisker, Click, Cooper, Crafts, Dillingham, Edwards, Ferreira, K. Glenn, Graff, Gross, Hitchcock, Kammermeyer, Krause, Leland, Lieberman, Martin, Moryl, Muller-Stach, Myers, Oden, Ramsey, Shaak, Snidecor, Swift, C. Thompson, Turnbull, Tyrnauer, Van Eimeren, Wallin, Werlick, Youry.

**Associate Professors:** Boston, Cummings, Dame, de Heras, Dukes, Gibbar, C. Glenn, Lincoln, Martel, Osborne, Pine, Slayman Jones, Yates.

**Assistant Professors:** Greer, Mendez, Singhal.

**Director, The Art Museum and Galleries:** Constance Glenn.

**Adjunct Professors:** Marcia S. Weisman; Russell Moore, Director, Long Beach Museum of Art.

**Credential Adviser:** Dr. James Crafts.

**Undergraduate Adviser:** Mr. Robert Click.

**Graduate Adviser:** Ms. Kristi Slaymen Jones.

**Graduate Committee:** James S. Crafts, Calvin Gross, Dieter Muller-Stach, Dean Myers, Mark Wethli.

The Art Department has curricular programs leading to the following undergraduate 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. The interior design specialization leading to the bachelor of fine arts degree has been granted accreditation by the Foundation for Interior Design Education Research.

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.

The Department of Art master of arts degree program provides specialization in the following: art education, art history, ceramics, drawing and painting, exhibition design, general crafts, graphic design, illustration, industrial design, interior design, jewelry/metalsmithing, printmaking, sculpture, and textile design.

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.

*Note:* Since applications for most Art Department undergraduate programs exceed the space available, admissions to those programs must be limited. Admissions procedures and supplementary screening criteria are described following the requirements for the degree.

#### **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.

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 364 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 or 442S, 499S; Art 368 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, 231, 237.

*Upper Division:* Art 320, 341A, 341B, 342A, 342B, 343, 441A, 441B, 499H; Art 367 and 368; 11 units of art outside specialization including Art 332 and nine units selected from the following: Art 322A, 327A, 331A, 333A, 344A, 435.

#### **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, 357B, 358A, 358B, and nine units selected from Art 355, 356, 359, 458A, 458B or 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 365, 381, 384A, 438, 439 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 366, 368 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.

*Lower Division:* Art 112A, 112B, 113A, 113B, 121, 181, 187, 263; History 131A,B.

*Upper Division:* Art 307, 308, 309, 334, 335 and 497; one course selected from five of the following seven groups: *I:* Art 408, 409, 410; *II:* Art 423, 424, 425; *III:* Art 401, 426, 427, 436; *IV:* Art 437, 438, 439; *V:* Art 465, 466, 467; *VI:* Art 468, 469, 470; *VII:* Art 455, 456, 457. *Other:* A score of 450 in either French or German on the Graduate School Foreign Language Test.

#### **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 438 or 439, and one course selected from Art 455, 456, 457, 466, 467, 468, 469 or 470. 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. Art 354A and one course in ceramics or jewelry or metalsmithing or sculpture or Art 328 or 428A. 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. A portfolio review is required for all industrial design majors to advance to the junior-level major industrial design sequence (Art 331A-B and 333A-B).

*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, 368, 431A, 431B, 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. Forty-eight units as listed: Art 121, 181, 184, 271, 372, 374A, 374B, 499F; Biology 208, 212, 216, 313 or 324, 327 or 331, 364, 365. (Although Chemistry 111A is a prerequisite for Biology 216, this may be waived for art majors in the biomedical art program by consent of the instructor concerned.)

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 units to include: Art 344A or B, 345, 445A-B taken consecutively beginning in the spring semester, 442Q in museum internship; Art 307 and 12 additional units selected from Art 499Q, Art History, Anthropology, Business Administration, English, Instructional Media, Journalism or Public Policy and Administration, subject to approval of the director of the program at the time of admission to Art 445A.

### Admission to Baccalaureate Degree Programs in Art

Since requests for admission to Art Department programs (10021) exceed the capacity to accommodate, all applicants are encouraged to apply during the first month of any initial filing period. When the initial application is received, an Art Department questionnaire will be sent to each applicant for designation of the specific degree and specialization desired. Applicants must return this form by the stated deadline directly to the Art Department or they will only be considered for the B.A. in General Art. Applicants for admission to the B.A. degree programs (General Art, Teacher Preparation or Art History) or the B.S. degree in Industrial Design must meet all entrance requirements of the University.

### Admission to the Bachelor of Fine Arts Degree

Students seeking admission to the B.F.A. program must:

1. Meet entrance requirements of the University
2. Provide a transcript of all college level credits. This is in addition to any transcript submitted to the University Admissions Office.
3. Submit a portfolio of creative work to the Art Department.

Students who have not yet achieved sufficient specialization to prepare a portfolio or otherwise demonstrate their qualifications 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 may take more specialized work and apply at a later date to change to the B.F.A. program.

### Supplemental Screening Criteria for Admission to the B.F.A. Degree in Graphic Design (10091)

Applications for the Graphic Design specialization exceed the spaces available; therefore, this program is impacted system-wide. Supplemental screening criteria will be used to determine which applicants will be admitted into Graphic Design (10091). The criteria for admission to this program are listed below:

1. Return the Art Department questionnaire by the stated deadline.
2. Submit also by the stated deadline a complete set of transcripts for all college-level academic work attempted. These are in addition to the transcripts sent to the University Admissions Office.
3. Have earned a 3.0 grade point average or better in at least 15 units of art, which must include the following required art courses or their equivalents:

Course	Semester Units
Two-Dimensional Design (Art 121)	3
Beginning Drawing (Art 181)	3

4. In addition, applicants for this B.F.A. degree must submit a slide portfolio of their creative work by the stated deadline, for review by the faculty in this specialization.

### Admission Procedures for Change of Major

Currently enrolled students who are undeclared or majors in other departments and who wish to apply for admission to degree programs in art must:

1. Submit a Change of Degree Objective form to the Art Department Office during the months of November or August. These are the only two periods during which such requests will be accepted.
2. Students wishing to change their major to the B.A. degree in art must supply a set of transcripts to the Art Office for all college-level academic work attempted.
3. Students applying for the B.F.A. degree programs in art must also supply transcripts of college-level academic work attempted in addition to a portfolio of their creative work. If applying for Graphic Design, students must also meet the supplemental screening criteria listed above for admission to this program.



### Master of Arts Degree with a Major in Art (code 5-5850)

The Art Department master of arts degree program provides 14 professional specializations under the following categories: art education, art history, pictorial arts (drawing and painting, sculpture, printmaking), design (graphic design, illustration, industrial design, interior design, exhibition design), crafts (general crafts, textiles, ceramics, metalsmithing/jewelry).

#### Prerequisites

1. A bachelor's degree from an accredited institution with a minimum of 24 units of upper division art comparable to those required of a major in art at this University.
2. Completion of 16 units minimum of upper division work in the areas of specialization for the master of arts degree program. If the area of specialization is art education, the 16 units will consist of art and education courses approved by the art education graduate faculty.
3. Completion of a minimum of 12 units in art history, six units of which must be upper division.
4. Presentation to the student's specialization faculty of a portfolio of representative studio work with emphasis in the area of specialization. In lieu of a portfolio, art history students must: (a) present college transcripts to the art history faculty adviser; (b) complete Art 307 or its equivalent; (c) pass the Co-operative English Test and the STEP Writing Test with a minimum of 70 per cent on each. (Only one retest for each test will be allowed and permission for retesting secured after consultation with the art history graduate adviser.)
5. A grade point average of 3.0 or better in upper division art. Course work taken as a graduate to validate undergraduate preparation may not be used to satisfy any requirement in the master of arts program.

#### Advancement to Candidacy

Approval of the graduate program by the student's graduate advisory committee, the graduate adviser, Art Department chair and Dean of Graduate Studies. Art history students must: (1) secure approval of a qualifying paper demonstrating potential for success in thesis research and writing. The qualifying paper is written in residency in conjunction with a course. This requirement may be met while completing prerequisites; (2) have completed course work of comparable distribution to that required for the B.A. in Art History at CSULB; (3) achieve a score of 600 in either French or German on the Graduate School Foreign Language Test.

#### Requirements for the Master of Arts

Completion of all requirements as established by the graduate advisory committee to include:

1. A minimum of 30 units of approved upper division and graduate courses with a minimum of 18 units in the area of specialization. At least 15 of these 18 units in the area of specialization must be 500-600 series courses taken at this University. Art education students must satisfy credential English requirements.
2. Not more than eight units of approved upper division work outside the area of art.
3. A thesis or studio project. All students completing a studio project for Art 698 are required to exhibit the work done for the project and complete a studio thesis before the master's degree is granted, in accordance with the *Art Department Guide for Master's Exhibitions*.
4. A minimum of six units of upper division or graduate art history or related history beyond the 12 units listed as prerequisites, taken prior to or as part of the graduate program.

### Master of Fine Arts Degree in Art (7-5850)

The Art Department master of fine arts degree program provides 11 professional specializations under the following categories: Pictorial Arts (drawing and painting, sculpture, printmaking), Design (graphic design, illustration, interior design, exhibition design), Crafts (general crafts, textiles, ceramics, metalsmithing/jewelry).

#### Prerequisites

1. A bachelor's degree from an accredited institution with a minimum of 24 units of upper division art comparable to those required of a major in art at this University.
2. Completion of 18 units of upper division work in the area of specialization for the proposed M.F.A.
3. Completion of a minimum of 12 units of art history, six units of which must be upper division.
4. Presentation of a portfolio of representative studio work with emphasis in the area of specialization to the student's specialization faculty.
5. A grade point average of 3.0 or better in upper division art. Course work taken as a graduate to validate undergraduate preparation may not be used to satisfy any requirement in the M.F.A. program. Students who do not meet the 3.0 grade point average or specified balance within the required 24 units of upper division art but who possess outstanding or unusual qualifications that promise a significant contribution to the master of fine arts program may petition for a special review from the Art Department Graduate Petitions Committee.

#### Advancement to Candidacy

Approval of the graduate program by the student's graduate advisory committee, the graduate adviser, the Art Department chair and the Dean of Graduate Studies.

#### Requirements for the Master of Fine Arts in Art

1. At least 36 units in the area of specialization. Thirty of these must be in graduate level courses (500-600 series) which must include: 690-6, 692-3 and 699-6.
2. Six units of approved upper division or graduate course work outside of art.
3. A comprehensive review administered by the student's graduate committee after the completion of 21 units of studio course work. This review is to determine whether the candidate will continue in the M.F.A. program. Transfer students or returning M.A. graduates who are awarded 21 or more units toward the M.F.A. for previous graduate work by their respective committees are considered to have met this requirement.
4. A minimum of six units of upper division or graduate art history beyond the 12 units listed as prerequisites.
5. Twelve units of upper division or graduate elective courses in art.
6. Studio project. All students must complete a studio project for Art 699 and are required to exhibit the work done for the project and complete a studio thesis before the M.F.A. degree is granted in accordance with Art Department Guide for Masters' Exhibitions.

#### Lower Division

##### 100. Introductory Studio Art for Non-Art Majors (3) F,S Faculty

Basic studies in drawing, painting, color and two-dimensional design. Use of various media with emphasis upon developing perceptual skills.

##### 110. Introduction to the Visual Arts (3) F,S Shaak

Analysis, interpretation and evaluation of art forms; styles and themes in art; influences motivating art expression. Illustrated lectures with supplemental visits to art galleries and museums. For non-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. Survey of Western Art (3,3) F, S Faculty**

Chronological survey of art as an integral part of Western culture. 112A: From prehistory through the Middle Ages; 112B: From Proto-Renaissance to 1945.

**113A,B. Survey of Eastern Art (3,3) F, S Faculty**

Survey of art as an integral part of Eastern culture. Art 113A: India and Southeast Asia; 113B: China, Japan and Korea.

**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.

**220. Principles of Color (2) F, S Faculty**

Prerequisite: Art 121. Study of the physical, physiological and psychological aspects of color through lecture and studio projects. An investigation of the various methods (Munsell, Ostwald, etc.) used to catalog color.

**222. Calligraphy (2) F Faculty**

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. Evaluation on a Credit/No Credit basis.

**\*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.

**\*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.

**\*460. Women Artmakers (3) S Faculty**

Exploration of unique aspects of the work of women artists past and present. Emphasis on direct experiences with art and artists through gallery and studio visits, presentations of film and video, performances and discussions with artists as well as slide lectures. Opportunity for field research and personal interviews.

**\*489. Special Topics in Visual Art (1-3) F, S 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) F,S 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) F,S 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.

**\*499T. Special Studies in Intermedia (3) F 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**

Art 403, 404, 405, 407 and 499P are acceptable for the M.A. with a specialization in 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 for Recreational Programs (2) F,S Archer**

Prerequisite: Art 100 or consent of instructor. Art and craft media, techniques and processes in recreation and leisure studies. For programs which reach diverse age and interest levels.

**306A,B. Arts and Crafts for Exceptional Children (2,2) F,S Faculty**

Methods and materials for teaching arts and crafts to mentally retarded, educationally handicapped, visually impaired, aurally impaired, multi-handicapped, orthopedically impaired and disadvantaged children.

**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.

**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****\*307. Historiography in Art (3) S 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. Not open to students with credit in Art 496.

**\*308. Art Theory (3) F Krause**

Consideration of historic and contemporary theories and aesthetic frames of reference whereby what has been, or is, identified as art is so identified.

**\*309. Art Criticism (3) F Gross**

An examination of a variety of critical approaches to modern art. Discussions will be based upon the writings of 19th and 20th century art theorists and professional art critics.

**\*334. Concepts of the Classical Tradition (3) F Greer**

Examination of Greek Classical art forms and aesthetic theories and their reinterpretations and revivals in the history of art, as exemplified in art and literature about art. Begins with Ancient Greece and ends with 20th century reinterpretations of Classical form.

**\*335. Introduction to "Primitive" Art (3) S Slayman-Jones**

Introduction to and critical examination of the conceptions, misconceptions, attitudes and judgments which have attended the artifacts of African, Oceanic and Native American manufacture since their "discovery" as art early in the 20th century.

**\*364. History of Ceramics (3) S Ramsey**

Materials and techniques as they relate to the historical development of pottery styles and forms. Not open to students with credit in Art 416.

**\*365. History of Prints (2) F Faculty**

Printmaking and printmakers in Eastern and Western cultures from their origins to contemporary developments in the 20th Century. Not open to students with credit in Art 318.

**\*366. History of Textiles (3) S Leland**

Historical survey textile structure and design as they relate to use, materials and invention of processes in determining character, quality and stylistic concepts. Not open to students with credit in Art 419.

**\*367. History and Theory 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. Not open to students with credit in Art 417.

**\*368. History and Theory of Design (3) S Krause**

Development of design as an independent creative activity including a consideration of both pre-technological and technological culture. Not open to students with credit in Art 418.



**\*401. American Art (3) S Gross**

A survey of American art from 1760 to 1945. Emphasis will be given to painting from Colonial portraiture to 20th century Abstract Expressionism. Not open to students with credit in Art 413A or 413B.

**\*408. Early Christian and Byzantine Art (3) F, 1982 Martel**

Architecture, mosaics and sculpture of Rome, Ravenna and Constantinople from the decline of the Roman Empire to the end of the Byzantine era. Not open to students with credit in Art 311.

**\*409. Romanesque Art (3) S, 1982 Martel**

Arts of Northern Europe from Merovingian through the Romanesque periods. Not open to students with credit in Art 313A.

**\*410. Gothic Art (3) F, 1981, S, 1983 Martel**

Stylistic analyses in the historical content of the architecture, sculpture and stained glass of the great cathedrals of Europe. Not open to students with credit in Art 313B.

**\*423. Early Renaissance Art in Italy (3) F Greer**

Painting, sculpture and architecture in Italy during the 14th and 15th centuries: Giotto to Botticelli; Pisano to Verrocchio. Not open to students with credit in Art 314A.

**\*424. High Renaissance Art in Italy (3) S Greer**

Painting, sculpture and architecture in Italy during the 16th century. Classical High Renaissance and Mannerist styles; Leonardo da Vinci, Michelangelo, Bramante; Titian and Venetian painters, Sansovino and Palladio. Florence, Venice and Rome. Not open to students with credit in Art 314C.

**\*425. Northern Renaissance Painting (3) S Greer**

Renaissance painting in North European Netherlands, Burgundy, France, Germany and Austria between 1400-1570. From French manuscript illuminators (Limbourg Brothers), Van Eyck to Breughel, Durer to Holbein, Fouquet to Clovet. Special attention to iconography. Not open to students with credit in Art 314B.

**\*426. Baroque and Rococo Trends in Art (3) F Martel**

Mainstreams of art in Italy, Holland and Germany in the 17th and 18th centuries. Emphasis on art of Bernini, Borromini, Caravaggio, Rembrandt, Vermeer, Piranesi, Guardi. Examination of representative examples of the art of the period in the Norton Simon and Getty museums. Not open to students with credit in Art 315A.

**\*427. Baroque Art: Court and Middle Class (3) S Martel**

Palace of Versailles and its influence on the court art of Germany and Austria in the 17th and 18th centuries. Paintings of Poussin, Rubens, Velasquez, Gainsborough and their followers. Influence of Caravaggio upon the bourgeois art of the period. Examination of representative examples of art of the period in the Norton Simon, Getty and Huntington museums. Not open to students with credit in Art 315B.

**\*436. Neo-Classicism to Romanticism, 1789-1850 (3) F Cooper**

Examination of Neo-Classicism, Realism, Romanticism, photography and the academic tradition in art and culture of Europe from 1789-1850. Not open to students with credit in Art 316A.

**\*437. Impressionism to Post-Impressionism, 1850-1900 (3) S Cooper**

Analysis of the development of Impressionism and Post-Impressionism in France from 1850-1900. Not open to students with credit in Art 316B.

**\*438. Twentieth Century Art to 1945 (3) F Gross**

Examination of Abstraction, Non-Objective art, Expressionism, Dada and Surrealism. Not open to students with credit in Art 317A.

**\*439. Twentieth Century Art from 1945 (3) S Gross**

Examination of Pop art, Happenings, Minimal Art, Art and Technology, Environmental, Concept, Performance and Video Art. Not open to students with credit in Art 317B.

**\*455. Traditional Art of Africa: A Thematic Approach (3) F Slayman Jones**

Prerequisite: Art 335 or consent of instructor. Exploration from a Western perspective of the conceptual, expressive and aesthetic aspects of traditional African art as related to its cultural context and to Western concepts of art. Focus on West Africa. Not open to students with credit in Art 411A.

**\*456. American Indian Art: Western Perspectives (3) S Slayman Jones**

Prerequisite: Art 335 or consent of instructor. Exploration from a Western perspective of the historically various and changing frames of reference surrounding perception, interpretation and consideration of Native American art through focus on selected traditions. Not open to students with credit in Art 411C.

**\*457. Pre-Columbian Mexican Art (3) F Slayman Jones**

A survey from the Olmec to the Aztec of the art and architecture of Mexico and adjacent areas prior to the Spanish conquest. Not open to students with credit in Art 393A.

**\*465. Ancient Art of the Near East (3) S, 1983 and alternate years Krause**

Prehistoric, Near Eastern, Egyptian and Aegean art. Not open to students with credit in Art 312.

**\*466. Buddhist Art of India and S.E. Asia (3) F Aall**

The formation and development of Buddhist art in India and its subsequent metamorphoses in Cambodia, Thailand and Indonesia will be examined. Not open to students with credit in Art 415A.

**\*467. Hindu and Islamic Art of India (3) S Aall**

The formation and development of Hindu art in India and the genesis as well as transformation of Islamic art of India compared to pan-Islamic characteristics will be examined. Not open to students with credit in Art 415B.

**\*468. Early Chinese Art (3) F Aall**

The formation and development of Chinese art from the third millennium to the 10th century A.D. Not open to students with credit in Art 319A.

**\*469. Later Chinese Art (3) S Aall**

Development of Chinese art from the 11th century A.D. through the culmination of the tradition and its transformation in the 20th century will be explored. Not open to students with credit in Art 319B.

**\*470. Japanese Art (3) F Aall**

The characteristics of Japanese art from 10,000 B.C. to the present will be examined and the development and transformation of native styles studied in relation to influences from Buddhist, Chinese, Korean and Western art, respectively. Not open to students with credit in Art 494A or B.

**\*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.

**\*498. Independent Studies in Art History (3) F, S Faculty**

Prerequisites: Senior Art History major and consent of instructor. Opportunity for outstanding students to undertake independent art historical investigations. Limited to three units in one semester and a total of 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.

**\*450A,B. Glassblowing (3,3) F, S Faculty**

Prerequisite: Art 131. 450A: Introduction to basic techniques of glassblowing including a brief history of glass. 450B: More advanced techniques of offhand glassblowing with greater emphasis on form.

**\*451A-B. Advanced Ceramics (3,3) F, S Ferreira, Ramsey**

Prerequisite: Art 351B. Individual problems in ceramics.

**\*452. Ceramic Shop Planning and Kiln Design (3) 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****\*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.

**\*454A-B. Handcrafted Furniture (3,3) F, S Faculty**

Prerequisites: Art 354A and B. Concepts and skills necessary for the production of handcrafted furniture. Emphasis on the use of hand techniques as a means of understanding the philosophy and aesthetics of handcrafted furniture.

**\*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.

**General Studies in Art****380A. Perceptual Skills in Drawing for Non-Art Majors (3) F, S Dame**

Use of various drawing media with an emphasis upon developing drawing skill.

**380B. Perceptual Skills in Painting for Non-Art Majors (3) F, S Dame**

Use of various painting media with an emphasis upon developing a personal approach.

**400. Studio Art for Non-Art Majors (3) F, S Faculty**

Continuation and expansion of basic studies in color, drawing, painting and design.

**Graphic Design****\*322A-B. Visual Communications Design (3,3) F,S Boston, Van Eimeren, Faculty**

Prerequisites: Art 121, 131, 181, 184, 187; 322B: Art 223, 237. Design conceptualization and visualization appropriate to communications in print, film and video.

**\*323A-B. Visual Communications Design/Production (3,3) F,S Boston, Van Eimeren, Faculty**

Prerequisites: Art 323A: Art 121, 181, 223. 323B: Art 323A. Graphic design production processes, including concept to camera-ready art, camera work, stripping and proof processes.

**\*324. Film Animation (3) F,S VanEimeren**

Prerequisite: Consent of instructor by drawing portfolio presented at first class meeting. Design and production of color, super 8 mm and sound synchronized 16 mm animated films.

**\*325. Packaging Design (3) F Van Eimeren**

Prerequisite: Consent of instructor. Materials, processes and the design of packaging.

**421. Visual Communications Design/Comping Skills (3) F,S Faculty**

Prerequisites: Art 121, 181. Art 322A recommended, but not required. Concepts and comping skills from thumbnails through tight comps, emphasizing marker technique. Rendering of various materials, surfaces and type indication stressed.

**\*422A-B. Advanced Visual Communications Design (3,3) F,S Boston, VanEimeren**

Prerequisites: Art 322B, 323B. Art 422A is a studio course resulting in a multi-color product taken through design, production and marketing. Art 422B deals with advertising agency art direction and results in a campaign development.

**\*442S. Internship in Visual Communications (3) F,S Boston, Van Eimeren Faculty**

Prerequisite: Consent of instructor. Student internship experience in selected studios, advertising agencies and in-house creative departments. Opportunity to work under supervision of professionals in the field for six hours per week. Limited to three units in one semester and a total of six units.

**\*499S. Special Studies in Visual Communications Design (3) F,S Boston, Van Eimeren, Faculty**

Prerequisite: Consent of instructor. Opportunity for extensive contract work with faculty supervision on problems in visual communications 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. Illustration in part from live models. Each course ½ life model fee.

**\*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****\*331A-B. Industrial Design (3,3) F,S Kammermeyer**

Prerequisites: Art 121, 131, 181 or 224; Art 331B: Art 237, 231. Planning and design of useful products for industrial production.

**\*332. Rapid Visualization (2) F,S Myers**

Prerequisites: Art 181, 224, 231 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 (2,2) 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, 231, 332, consent of instructor. Advanced idea generation and visualization for industrial design.

**\*442G. Internship in Industrial Design (3) F,S Faculty**

Prerequisite: Consent of instructor. Student internship experience in selected industrial design offices. Opportunity to work under supervision of industrial designers in the field to expand student understanding of the complexities, discipline and challenges in the practice of industrial design. May be repeated once for credit.

**\*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****\*340. Professional Practices for Interior Architecture (3) S Faculty**

Examination of professional practices for commercial (corporate) institutional/public interior architectural design.

**\*341A-B. Interior Design (3,3) F,S Brisker, Yates**

Prerequisites: Art 112A,B, 121, 131 and 181 or 224; 341B: 224, 231, 237, 332. Design of interior environments emphasizing interrelationships between interior space, architectural form and human factors in design.



**\*342A-B. Interior Architectural Drawing and Rendering (2,2) F, S Yates**

Prerequisites: Art 121, 131, 181, 187, 224, 231; 342B: 332. Drawing, rendering and techniques of graphic expression for interior architectural designers. Includes working drawings.

**\*343. Materials of Interior Architecture (3) F Yates**

Prerequisites: Art 121, 131, 224, 231, 237 or consent of instructor. Materials, processes and resources as they relate to interior architecture. 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.

**\*442H. 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. Limited to six units in one semester and a total of nine units.

**\*443. Building Systems for Interior Architecture (3) F Faculty**

Prerequisite: Art 342B or consent of instructor. Survey of design implications of typical building systems (structural, mechanical, plumbing, electrical, acoustical, energy conservation) as influences on interior architectural design.

**\*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****\*355. Enameling (3) S Muller-Stach, Pine**

Prerequisite: Art 121 or consent of instructor. Techniques, materials and concepts of enameling on metals. Introduction to tools and metalworking techniques associated with making enameled metal objects. Emphasis on the exploration of characteristics of enamels and metals, stressing individual advancement of interest and expression. May be repeated once for credit.

**\*356. Jewelry Casting (3) S Muller-Stach, Pine**

Prerequisite: Consent of instructor. The design and creation of jewelry through lost-wax casting techniques and processes. May be repeated once for credit.

**\*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.

**\*359. Architectural Metalwork and Blacksmithing (3) F Muller-Stach**

Prerequisites: Art 121, 131. Techniques, materials and concepts of the metal craft for developing art forms in larger scale and in an architectural context. Hot forging and fabricating with ferrous metals. Basic techniques of cutting, forming, joining, welding and surface design of metals. Making of tools. May be repeated once for credit.

**\*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.

**Museum Studies****\*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.

**\*442Q. Internship in Museum Studies (3) F, S C. Glenn**

Prerequisites: Art 345, 445A-B and consent of instructor. Student internship experience in selected museums, college and community art centers appropriate to the student's particular academic interest. Opportunity to work under supervision of museum professionals in the field to expand student understanding of the complexities, discipline and challenges in the profession. May be repeated once for credit.

**\*445A-B. Museum-Gallery Practices (3,3) F, S C. Glenn**

Prerequisites: Art 345, 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.

**\*499Q. Special Studies in Museum Studies (3) F, S C. Glenn**

Prerequisites: Art 345, 445A and consent of instructor. Opportunity for extensive individual work with faculty supervision on problems in museum studies, including utilizing the resources of The Center for Southern California Studies in the Visual Arts. May be repeated once for credit.

**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: Industrial Arts 101, Art 277, 378, 379. A workshop devoted to photoprintmaking, advanced technical processes, and shop practices.

**\*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 paring.

**\*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 woodcarving, 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.

**Graduate Division****509A-B. Studio Problems in Art Education (2,2) F,S Faculty**

Prerequisite: Consent of instructor. Advanced individual graduate problems in art education with projects related to specific learning situations.

**559. Advanced Ceramic Shell Casting (3) S Hitchcock**

Prerequisite: Art 459. Lost wax casting of art forms in various metals using advanced techniques of ceramic shell moldmaking. Limited to nine units.

**580. Community Arts Programs (3) F,S Faculty**

Prerequisite: Graduate standing in art, Art 480 or consent of instructor. Further development of experiences gained in Art 480 with emphasis on developing understanding of the total program of selected community agencies and the relationship of arts programs to the whole.

**590. Special Problems in Studio Art (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Special problems 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*.

**599. Studio Problems in Art (3-12) F,S Faculty**

Prerequisite: Consent of art department. Advanced individual graduate projects, with faculty supervision, in an area of art specialization. Limited to six units in one semester and a total of 12 units in any one area. Areas will be designated by letter at the time of registration: (a) ceramics, (b) general crafts, (c) display and exhibition, (d) drawing, (e) graphic design, (f) illustration, (g) industrial design, (h) interior design, (i) life drawing, (j) metalsmithing and jewelry, (k) painting, (m) sculpture, (n) textile design, (q) museum studies, (r) printmaking, (s) visual communications design and (t) intermedia. Intermedia units will apply to the drawing and painting specialization.

**601A-B. Seminar in Art Education (3,3) F,S Faculty**

Prerequisite: Consent of instructor. Special studies, research and evaluation of the role of the art teacher.

**611. Seminar in Art History (3) F,S Faculty**

Prerequisite: Consent of instructor. Directed individual research and group discussion concerning a topic in art history. Limited to six units in one semester; may be repeated to nine units.

**690. Graduate Seminar in Studio Art (3) F,S Faculty**

Prerequisite: Consent of instructor. Limited to three units in one semester and a total of six units. Selected reading and writing concerning topics relevant to student's specific disciplines in the visual arts with an opportunity for interdisciplinary discussion.

**691. Teaching Art in Higher Education (2) F,S Hitchcock**

Prerequisite: Advancement to candidacy for M.F.A. or M.A. in Art. Analysis of and preparation for teaching the visual arts at the college and university level. Teaching Assistants in the Art Department must be enrolled in Art 691 concurrently with teaching assignment. May be repeated on a credit/no credit basis.

**692. Public Exhibition (2-3) F,S Faculty**

Prerequisite: Consent of instructor. Planning, preparation and administration of a public exhibition of creative work related to the art field. Two unit designation for all M.A. candidates. Three unit designation for all M.F.A. candidates. The course work will result in a public exhibition by each M.A. and M.F.A. candidate.

**694. Directed Studies — Studio (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Independent studies in creative studio.

**695. Field Problems in Art (1-6) F,S Faculty**

Opportunity to study artistic monuments, objects, theories, techniques or literature at appropriate off-campus locations. Up to six units of cumulative credit may be earned in Art 695.

**697. Directed Studies (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Independent studies in technical and historical aspects of art.

**698. Thesis or Project (1-6) F,S Faculty**

Prerequisite: Consent of instructor. Planning, preparation, and completion of a thesis or project related to this field. Open only to students who have been admitted to candidacy. Required of all master's candidates in art.

**699. Thesis or Project (1-6) F,S Faculty**

Prerequisite: Consent of instructor. Planning, preparation and completion of thesis or project related to this field. Open only to students who have been admitted to M.F.A. candidacy or second M.A. candidacy in art. Required of all M.F.A. candidates and all candidates seeking a second M.A. in art.

# Asian American Studies and Asian Languages

School of Social and Behavioral Sciences

**Director:** Mr. Lloyd Inui.

**Professors:** Inui, Johnson.

**Academic Advising Coordinator:** Mr. Lloyd Inui.

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 the first, second and third year of Japanese.

**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 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, Mr. Lloyd Inui.



**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, 340, 370, 380, 490, 499.

*Group II:* Asian American Studies 430, 470.

Please see Asian Studies for requirements for a B.A. in Asian Studies with an option in Asian American Studies.

**Lower Division****102. Asian American Experience (3) F, S Inui, Johnson**

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**

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 Johnson**

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 Faculty**

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 Faculty**

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.

**430. Japanese Americans and World War II (3) S Inui**

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**

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.

## Asian Languages

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. 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 221B, 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.

##### 490. Special Topics in Chinese (1-3) F, S Faculty

Prerequisite: Consent of instructor. Topics related to advanced Chinese language study and Chinese language instruction selected for intensive development.

##### 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.

### Certificate in Japanese

#### Advisory Committee: Miyazaki, Pusavat.

The Certificate Program in Japanese offers students an opportunity to develop spoken and written competency in modern Japanese, and to acquire a broad introduction to various aspects of traditional and modern Japan.

The program is designed for students who intend to pursue a career in the private or public sectors, for which knowledge of Japan and the command of the language is useful or necessary, and also for students who intend to pursue a graduate program in which such knowledge and competency are required.

#### Requirements for the Certificate in Japanese

1. A bachelor's degree (may be earned concurrently with the certificate).
2. 15 units of 400 level Japanese language courses.
3. 12 units of related upper division work from at least two disciplines. These units must be approved by a member of the advisory committee.

### 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 221B. 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

## School of Social and Behavioral Sciences

**Director:** Dr. Charlotte Furth.

**Professors:** Aall, Carr, Chawla, Furth, Inui, Ishimine, Johnson, Kim, Kimura, Lipski, McKay, Marsot, Shoup.

**Associate Professors:** Debysingh, Li, Libby, Miyazaki, Sievers.

**Assistant Professors:** Broughton, Pusavat, Ruyle.

The Asian Studies Program provides a framework for students to explore one or more Asian societies from an interdisciplinary perspective. The program encourages students to integrate the study of Asian peoples across the Pacific with that of Asian American communities in the United States and to support the study of culture and society with appropriate language training.

Through academic offerings of its own and those of 11 cooperating departments, the Asian Studies Program offers an M.A. in Asian Studies and a Certificate in Asian Studies. Additional information and advice relative to the program are available through the director of the Asian Studies Program, F04-167.

### **Bachelor of Arts Degree with a Major in Asian Studies (code 2-0508)**

Students choosing an Asian studies major are advised to select one of two options for the degree. They may emphasize area studies, a social science and humanities based study of one or more specific Asian societies, such as China, Japan or India. They may opt for Asian American Studies, and combine the study of Asian Americans as an ethnic minority with supporting investigation of the countries of their historical origin.

#### **Lower Division:** A minimum of 15 units

Required of all students: Asian Studies 100, 101 (6 units); three semesters (9-12 units) of an Asian language, chosen from among the following: Chinese 221A, 221B, 331A; Japanese 221A, 221B, 321A; Sanskrit 331, 332, 341.\*

#### **Upper Division:** A minimum of 21 units; students should select one of the following two options:

- 1 Area Studies Option — 21 units of upper division work, selected from the list of approved electives with the following provisions: (1) no more than nine units shall be taken in a single discipline, such as art or history, (2) courses shall concentrate upon two geographic areas of Asia, chosen from among the following: China, India, Japan, Southeast Asia, the Americas (Asians in America). No more than six units of courses on the Americas can be applied toward this requirement.

\* Asian language courses with a 300-level number carry upper division credit.



## II Asian American Studies Option

**Lower Division:** Asian American Studies 102 or 220.

**Upper Division:** 21 units of work, selected from the list of approved electives with the following provisions: (1) 12 units of upper division Asian American studies shall be required including Asian American Studies 310 and 345, (2) of the remaining upper division units, no more than six shall focus on one geographical area of Asia, chosen among the following: China, India, Japan, Southeast Asia.

**Master of Arts Degree with a Major in Asian Studies (code 5-0508)**

The master of arts degree in Asian studies is an interdisciplinary degree offered by the Asian studies faculty of the cooperating departments. It is especially aimed at those intending to go into teaching, foreign service, or foreign trade.

**Prerequisites**

1. A bachelor's degree in one of the fields in social science or in the humanities or in fine arts.
2. The Certificate in Asian Studies, awarded at CSULB, or its equivalent as evaluated by the director of the Center for Asian Studies. An equivalence will, normally, be granted for work in Asian studies at CSULB and/or at other academic institutions, including a minimum of 18 units in no more than four disciplines with a minimum of six units in each of two disciplines of concentration plus two semesters of Asian language. Only courses dealing entirely with Asian studies are acceptable.
3. Other prerequisites to be determined by the director. Students whose undergraduate prerequisites are inadequate will be required to fulfill these deficiencies before advancement to candidacy and will receive unclassified graduate status until all deficiencies are removed.

**Advancement to Candidacy**

1. Satisfaction of the general University requirements for advancement to candidacy.
2. Completion of program plan in consultation with the director.

**Requirements for the Master of Arts**

1. In their first semester of work, students should complete the Graduate Aptitude English Cooperative Examination. The examination fee is \$3.00, payable at the Business Office, and the test is administered upon request at the Testing Office.
2. A minimum of 30 units of approved upper division and graduate courses. At least 15 units must be in the 500-600 series composed of units earned at this University in graduate courses, graduate seminars, Directed Research or Thesis. Seminars can be repeated once, but no more than three units of 697 may be used to satisfy degree requirements for those following the comprehensive examination option. A maximum of six units will be given for Asian Studies 698 for those following the thesis option.
3. A minimum of three upper division units in each of two disciplines of concentration to be taken preparatory to seminar work. At least six units of 500-600 level work in each of the two disciplines of concentration. A comprehensive written examination in the two disciplines of concentration, or a thesis.
4. Six units in an Asian language from among the following: Sanskrit, Chinese, Japanese, to be chosen in consultation with the director.

**Certificate in Asian Studies**

A student may earn a Certificate in Asian Studies with a concentration on either China, Japan or India. Where applicable, courses used to meet the certificate requirements also may be used to satisfy 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.

**Upper Division Courses Acceptable for the Master's Degree****Anthropology**

- |   |   |
|---|---|
| 332. Cultures of China and East Asia (3)      | 383B. Modern Japan (3)                                      |
| 333. Cultures of India and Southeast Asia (3) | 385A. The Early History of India (3)                        |
| 335. Japanese Culture (3)                     | 385B. History of Modern India (3)                           |
|   | 401. History of Women in the Cross-Cultural Perspective (3) |

**Art**

- |  |  |
|--|--|
| 466. Buddhist Art of India and S.E. Asia (3) | 487. Japan and the United States in the 20th Century (3) |
| 467. Hindu and Islamic Art of India (3)      | 481.‡ Modern Hindu Religious Thought (3)                 |
| 468. Early Chinese Art (3)                   | 487. Social and Intellectual Change in Japan (3)         |
| 469. Later Chinese Art (3)                   | 488. The Chinese Revolution (3)                          |
| 470. Japanese Art (3)                        |  |

**Philosophy**

- |   |  |
|---|--|
| 499Q.† Special Studies in Art History (1-3) | 306. Philosophies of China and Japan (3) |
| <b>Comparative Literature</b>               | 307. Philosophies of India (3)           |
| 325.‡ Asian Theatre and Drama (3)           |  |
| 403. Studies in Asian Literature (3)        |  |

**Geography**

- |                        |   |
|------------------------|---|
| 313. Eastern Asia (3)  | 362. Society and National Politics of China (3) |
| 314. Southern Asia (3) | 364. Society and National Politics of India (3) |

**History**

- |   |  |
|---|--|
| 382A. Imperial China (3)                    | 366. Governments and Politics of Southeast Asia (3)      |
| 382B. Modern China (3)                      | 407. Asian Political Theory (3)                          |
| 383A. Traditional Japanese Civilization (3) | 499.† Readings and Conference in Political Science (1-3) |

**Religious Studies**

341. Comparative Buddhism (3)  
 343. Religions of China (3)  
 344. Religions of Japan (3)  
 351. Hinduism (3)  
 481.† Modern Hindu Religious Thought (3)

**Theatre Arts**

- 325.‡ Asian Theatre and Drama (3)

**Asian Languages and Literature**

- Sanskrit 331. Fundamentals of Sanskrit (3)  
 Sanskrit 332. Intermediate Sanskrit (3)  
 Sanskrit 341. Advanced Sanskrit-Pali (3)  
 Sanskrit 342. Vedic Sanskrit-Pali (3)

- Chinese 331A-B. Intermediate Chinese (3,3)  
 Chinese 370. Chinese Literature in Translation (3)  
 Chinese 490. Special Topics in Chinese (3)  
 Chinese 499. Directed Studies in Chinese (1-3)  
 Japanese 331A-B. Intermediate Japanese (3,3)  
 Japanese 370. Japanese Literature in Translation (3)  
 Japanese 405A-B. Conversational Japanese (3,3)  
 Japanese 490. Special Topics in Japanese (3)  
 Japanese 441A-B. Advanced Japanese (3,3)  
 Japanese 499. Directed Studies in Japanese (1-3)

**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.

**Upper Division****490. Special Topics in Asian Studies (1-3) F,S Faculty**

Topics of special interest in Asian Studies 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.

**495. Imperial China (3) S Li**

Cultural heritage explored through history, philosophy, religion and science, side by side with the fine arts; seen as the totality of a people's humanistic experience. (Lecture, discussion and film.)

**Graduate Division**

Graduate course descriptions are found in the departmental listings in which they are offered. Graduate courses applicable for the degree (when the focus is on Asia) are Asian Studies 610, 695, 697, 698; Art 611; History 510, 520, 682, 683; Political Science 600, 610.

† Applicable when focus is on Asia.

‡ Comparative Literature 325 and Theatre Arts 325 are the same course, as are History 481 and Religious Studies 481. Students can apply only one of each group toward requirements.

**610. Seminar in Asian Studies (3) F Faculty**

Selected topics in Asian studies. Area and discipline of emphasis will vary from year to year. Open to graduate students of Asian studies. Graduate students in other disciplines may enroll with consent of instructor. May be repeated for a maximum of six units.

**695. Directed Readings (1-3) F,S Faculty**

Prerequisite: Consent of Director of Asian Studies. Readings in Asian studies on an individual basis.

**697. Directed Research (1-3) F,S Faculty**

Prerequisite: Consent of Director of Asian Studies. Research in Asian studies on an individual basis.

**698. Thesis (2-6) F,S Faculty**

Prerequisite: Consent of Director of Asian Studies. Planning, preparation and completion of a thesis in Asian studies.

# Biology

## School of Natural Sciences

**Department Chair:** Dr. Larry Leamy.

**Emeriti:** Robert P. Durbin, Ross Hardy, Kenneth E. Maxwell, Donald D. Shipley.

**Professors:** Alfieri, Anand, Baird, Beekman, Bourret, Callison, Collins, Cox, Dailey, Ho, Hrubant, Jones, Kluss, Kroman, Leamy, Lincoln, Loomis, Mansfield-Jones, Menees, Nelson, Rainey, Reish, Schatzlein, Sleeper, Stephens, Warter, Wellhouse, Wood.

**Associate Professors:** Baker, Biedebach, Clover, Dash, Galt Gregory, Hill, Huckaby, Jenkins, Parmley, Ting, Tjioe, Yokoyama.

**Assistant Professors:** Bray, Leister, Miller.

**Credential Adviser:** Dr. William C. Ritz.

**Undergraduate Advisers:** See list in undergraduate office.

**Graduate Adviser:** Dr. Eunice M. Wood.

Programs in biology are offered to provide 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 undergraduate 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 in this *Bulletin*.

The Department of Biology offers a master of science degree for students completing advanced study. The available programs cover the full spectrum of biology from the molecular to the ecosystem levels and include both laboratory and field study programs. A list of research areas with the names of faculty specializing in these fields can be obtained from the department graduate office.



The department occupies facilities in three science buildings with numerous laboratories containing many items of special equipment. Large research-study collections of plants and both invertebrate and vertebrate animals are available for use.

#### Financial Support, Assistantships

The Department of Biology offers a limited number of teaching and graduate assistant appointments. Forms requesting consideration for these appointments are available in the department graduate office. Duties consist of approximately 20 hours per week devoted to preparation and/or instruction in general undergraduate laboratory classes. These appointments are limited to a maximum of four semesters per individual.

The department also has a limited number of technical assistant positions as well as some hourly employment.

Several members of the faculty have grants which provide for research assistantships.

A number of scholarships are available through the University.

Students should consider the following degree requirements as minimal. Those individuals desiring entrance into medical, dental, veterinary or graduate schools should check the requirements for entrance before planning which courses to take for any degree. Specifically, many professional and graduate schools require more calculus (either Mathematics 115S and 116 or Mathematics 122, 123 and 224), and more organic chemistry (Chemistry 321A and 322 instead of 327).

#### 164 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 425 or 426 or 427 or 438 or 439. 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, 370, 427, 439, 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 427 or 429 or 447 and 447L; either Ecology (Biology 350 or 456 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, 353, 370, 419, 340 and 340L or 440, 425; six units of electives in marine biology and related areas selected from Geology 464; Biology 314, 315, 351, 417, 452; Civil Engineering 468; Microbiology 441; plus six units of electives from Biology 324, 332, 333, 350, 360, 430, 433, 438, 439, 447, 447L, 455, 456.

#### Major in Zoology for the Bachelor of Science Degree

*Lower Division:* Mathematics 112, 115S; Chemistry 111A,B; Physics 105, 106; Biology 212, 216, 260. Additional courses listed below.

*Upper Division:* Biology 370.

#### General Zoology Option (code 3-7643)

*Lower Division:* Microbiology 210 or Geological Sciences 102 and either 104 or 105.

*Upper Division:* Chemistry 327 and 448; 31 units of Biology including one course selected from 313, 315, 316, or 317; one course selected from 324, 419, 421, 424, 423; one course selected from 332, 333, 335, or 433; and 4 units from 340 and 340L; 342 and 342L, or 440; and 350.

#### Physiology Option (code 3-7604)

*Lower Division:* Microbiology 210.

*Upper Division:* Chemistry 321A, 322, 441A and 441B; 28 units of Biology including one course selected from 332, 333, 335, or 433; eight units selected from 340 and 340L, 342 and 342L, or 440; and nine units selected from 340, 342, 440, 441, 442, 443, 446, 448, 455, 470, 473.

#### Terrestrial Biology Option (code 3-7645)

*Lower Division:* Geological Sciences 102 and either 104 or 105.

*Upper Division:* Chemistry 327; 34 units of Biology including 316; 324 or two courses selected from 421, 424, or 423; 427; one course selected from 332, 333, or 335; 340; 340L; 350; and 412.

#### 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, 345, 440, 441, 442, 443, 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 Art section of this *Bulletin*.

Co-directors of the CSULB biomedical art program are in art Richard Oden, professor, and Mr. 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.

**Concurrent and/or Summer Enrollment in Another College**

Students who wish to take course work in a community or another college to meet curricular requirements while enrolled as undergraduates in the School of Natural Sciences 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.

**Master of Science Degree with a Major in Biology (code 6-7621)****Application**

Prospective graduate students in biology, including CSULB graduates, must formally apply for admission to the University as described earlier in this *Bulletin* and *must also apply directly to the Department of Biology*. All applicants must submit the following documents directly to the department:

1. Departmental Application Form (available from the departmental graduate office).
2. Official transcripts of all college level academic work. These are in addition to those required for general University graduate admission.
3. At least two letters of recommendation from persons familiar with the applicant's academic performance and research potential.
4. Official reports of scores on the Graduate Record Examination (Aptitude Test and Advanced Test in Biology). These examinations should be taken well in advance of application to the department. Official scores must be received from the Educational Testing Service by the deadlines below.

**166 Application Deadlines**

Applicants must arrange for all materials (Departmental Application Form, transcripts, letters of recommendation and GRE scores) to reach the Department of Biology Graduate Office no later than April 15 or November 15, to be considered for admission during the next fall or spring semesters, respectively.

**Prerequisites**

1. A bachelor's degree in biological science from an accredited institution. The undergraduate program must have included at least 24 units of upper division biology courses comparable to an undergraduate major in the Department of Biology at this University. Students lacking some of this background must make up all course and unit deficiencies before advancement to candidacy.
2. An undergraduate overall grade point average of at least 2.75, or a grade point average of at least 3.0 in the last 60 semester (90 quarter) units completed as an undergraduate. A student who does not meet one of these requirements but who shows considerable promise may be given special consideration for admission if, and only if, a written request for such consideration from a faculty member of the department is included with the applicant's admission materials. Such letter must meet the application deadlines above and must assure the Graduate Studies Committee that the faculty member will serve as the student's thesis adviser. Students receiving such special consideration must complete, with a grade of A or B, nine probationary units acceptable to the Graduate Studies Committee and Department Chair before advancement to candidacy.

**Admission to the Department of Biology Master's Degree Program**

Each student will be interviewed during the registration period by the Graduate Studies Committee for the purposes of determining any scholastic deficiencies and providing academic counseling and orientation.

Admission to the master's degree program requires that the student seek out and be accepted by a faculty member who will serve as the student's thesis adviser. This should be accomplished during the first semester in residence.

**Advancement to Candidacy**

The steps leading to advancement to candidacy are:

1. Admission to the Department of Biology master's degree program.
2. Satisfactory completion of any scholastic deficiencies and/or probationary units.
3. Maintenance of an overall grade point average of 3.0 for all upper division and graduate courses attempted as a graduate student.
4. Satisfactory completion of a comprehensive examination in Biology.
5. Selection by the student and thesis adviser of at least two additional faculty members to serve on the student's Graduate Committee. The departmental Graduate Adviser serves as an ex-officio member of all graduate committees.
6. Establishment by the student's Graduate Committee, upon review of academic work, transcripts and GRE scores, of a graduate program of study. The Department will forward the graduate program for final approval. This should be done within the first year in residence. Note that no more than 12 units completed prior to the establishment of the student's graduate program may be counted towards the degree requirements without prior approval of the Graduate Studies Committee or the departmental Graduate Adviser. The program must include a minimum of 30 units of upper division and graduate courses at least 17 of which must be in the 500-600 series in biology.  
Each program must include six units of *Thesis*, Biology 698; one-three units of *Directed Research*, Biology 697; and two different seminars (maximum three units), Biology 660. Of the 30 units, no more than six units may be accepted from transfer credit and/or other departments within the University.
7. Upon notification of advancement to candidacy, the student will have attained official classified graduate standing.

**Requirements for the Master of Science**

1. Advancement to candidacy.
2. Completion of the graduate program of study with a minimum overall grade point average of 3.0 in all upper division and graduate courses.
3. Completion of a thesis including oral presentation.

**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 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 open to students with credit in Biology 101. (Lecture 2 hours, laboratory 3 hours.)

**203. Ecology and Natural Resources (3) F, S Clover, Rainey**

Introduction to the principles of ecology, stressing ecological theory and practices in management of our natural resources (wildlife, fisheries, vegetation, soil, minerals, energy). The role of government is discussed. Not open for credit to biological science majors. (Lecture 3 hours.)

**204. Heredity (3) 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 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**

The gross anatomy, histology and neuroanatomy of the human body. Designed primarily for majors in nursing, biomedical engineering and biomedical art. Not open to students with credit in Biology 208A or Biology 202 except by consent of instructor. (Lecture 3 hours, laboratory 3 hours.)

**209. Applied Physiology (4) F, S Faculty**

Prerequisites: Biology 202 or 208, Chemistry 200 or equivalent, 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.)

**212. General Botany (5) F, S Faculty**

Principles of plant biology. Structure, metabolism and reproduction of higher plants; morphology and life history of major plant groups. (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 Clover, Kroman, Leamy, Miller**

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 Ritz**

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 Ritz**

Program in carrying out science activities in grades one through eight. Not open for credit to biological science majors or minors. (Workshop 4 hours.)

**305. Workshop in Environmental Education (3) F, S Ritz**

Interdisciplinary workshop/seminar course intended for teachers of all grade levels or subject specialties, K-12. Current environmental issues, field excursions, involvement with innovative curricular materials and development of teaching/learning units for class use. (Seminar 2 hours, workshop 2 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 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.)

**\*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 419, 421, 423 or 424. (Lecture 3 hours, laboratory 3 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.)

**\*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 Baird, 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 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 Beekman**

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 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 Tjioe**

Prerequisite: Biology 342 (may be taken concurrently). Laboratory course with applications to the principles included in Biology 342.

**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.)

**\*353. Marine Biology (3) F, S Galt**

Prerequisites: Biology 212, 313. Biology 260 recommended. Study of pelagic and benthic marine ecosystems, including topics of food resources, mariculture and pollution. Weekend field trips may be required. Not open to students with credit in Biology 416. (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.)

**364. Biomedical Illustration-Plants (2) F, S Cox**

Prerequisites: Degree in biology or art in progress, consent of instructor. Completion of, or concurrent enrollment in, Art 374A-B. (Activity 4 hours.)

**365. Biomedical Illustration-Animals (2) S Gregory**

Prerequisites: Degree in biology or art in progress, consent of instructor. Completion of, or concurrent enrollment in, Art 374A-B. (Activity 4 hours.)

**370. General Genetics (4) F, S Hrubant, Kroman, Leamy, Ting**

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.)

**400. Biology of Human Development (3) F,S Kluss**

Prerequisite: Biology 107 or 207. Biological and physiological processes associated with human growth and development from conception to adulthood. Not open for credit to majors in biological science. (Lecture 3 hours.)

**401. Biology of Human Aging (3) F Faculty**

Prerequisite: Biology 107 or 200 or 207 or 209 or 216. Biological processes associated with aging in humans. Emphasis on both cellular and organ aging. Not open for credit to biological science majors. (Lecture 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.)

**\*417. Marine Benthic Invertebrates (3) S Reish**

Prerequisite: Biology 313. Identification of benthic invertebrates, emphasizing intertidal forms of Southern California. Includes cooperative student field project. (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.)

**\*419. Ichthyology (3) F,S Bray**

Prerequisites: Biology 216 and eight units of upper division biology. Taxonomy, morphology, physiology and ecology of fishes. Emphasis on local marine forms. Not open to students with credit in Biology 320. (Lecture 2 hours, laboratory 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.)

**\*421. Herpetology (3) S Loomis**

Prerequisites: Biology 216 and eight units of upper division biology. Taxonomy, natural history, ecology and distribution of amphibians and reptiles; emphasis on local forms. Not open to students with credit in Biology 321. (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.)

**\*423. Mammalogy (3) F,S Huckaby**

Prerequisites: Biology 216 and eight units of upper division biology; 324 or 332 recommended. Evolutionary survey of the living mammals of the world. Emphasis on the adaptation of the major taxa to their environments. Not open to students with credit in Biology 323. (Lecture 2 hours, laboratory 3 hours.)

**\*424. Ornithology (3) F,S Collins, Warter**

Prerequisites: Biology 216 and eight units of upper division biology. Morphology, physiology, taxonomy, ecology and behavior of birds; emphasis on laboratory and field study of adaptations of local forms. Not open to students with credit in Biology 322. (Lecture 2 hours, laboratory and field 3 hours.)

**\*425. Algae (3) F,S Leister**

Prerequisite: Biology 212. Systematics, morphology, ecology and phylogeny of marine and freshwater algae, emphasis on forms of Southern California. Not open to students with credit in Biology 325. (Lecture 2 hours, laboratory and field 3 hours.)

**\*426. Fungi (3) S Bourret**

Prerequisite: Biology 212. Morphology, physiology and biology of fungi. Not open to students with credit in Biology 326. (Lecture 2 hours, laboratory 3 hours.)

**\*427. 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. Not open to students with credit in Biology 327. (Lecture 2 hours, laboratory and field 6 hours.)

**\*429. 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. Not open to students with credit in Biology 329. (Lecture 3 hours.)

**\*430. Cell Biology (2) F,S Wood**

Prerequisites: Upper division standing in a biological science, Chemistry 327. Structure and function of eukaryote cells. (Lecture 2 hours.)

**\*431. Techniques of Electron Microscopy (3) S Wood**

Prerequisites: A course in cell biology, consent of instructor. Experience in specimen preparation, instrumentation and photographic methods for both transmission and scanning electron microscopy. Individual research project required. Enrollment limited. (Lecture 1 hour, laboratory 6 hours.)

**\*433. Developmental Biology (3) F 1981 and alternate years 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, even years 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 or 341. Evolution of vertebrates as related to earth history, paleoecology and functional morphology. Laboratory: techniques of phylogenesis, biostratigraphy and analysis of paleofaunas. (Lecture 2 hours, laboratory and field 3 hours.)

**\*438. 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. Not open to students with credit in Biology 330. (Lecture 2 hours, laboratory 3 hours.)

**\*439. Plant Morphology (4) F,S Cox**

Prerequisite: Biology 212. Comparative structure, life history and phylogenetic relationships of plants. Not open to students with credit in Biology 331. (Lecture 2 hours, laboratory 6 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 Faculty**

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.)

**\*443. Endocrinology (3) F, S Schatzlein**

Prerequisites: Biology 216, Chemistry 327. Role of the endocrines in vertebrate and invertebrate adjustment to changes in the internal and external environment. Not open to students with credit in Biology 343. (Lecture 3 hours.)

**\*446. Respiratory and Renal Physiology (3) F Faculty**

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 1982 and alternate years 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 427 (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) S, alternate years 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, 353. 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.)

**\*456. Ecology of Animal Populations (3) F, S Rainey**

Prerequisite: Biology 350. Detailed analysis of animal populations including reproduction, growth, mortality and survivorship, intraspecific and interspecific relationships, regulation of numbers and evolutionary responses. Stresses pertinent aspects of wildlife biology. (Lecture 3 hours.)

**\*458. Ecology of Marine Plankton (3) F Galt**

Prerequisites: Biology 353, Chemistry 327; Mathematics 112 and 115S are recommended. Physiological ecology of marine phytoplankton and zooplankton as a basis for study of structure, dynamics and modeling of plankton communities. Topics include productivity, trophic relations and energy flow, distribution and abundance of marine plankton. (Lecture 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) F 1981 and alternate years 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, alternate years 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) F,S 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) F,S 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) On demand Faculty**

Prerequisite: Consent of instructor. A course to supplement and extend knowledge of recent biological developments and trends in research. May be repeated once for credit with consent of instructor. Maximum credit 4 units. (Lecture 2 hours.)

**512. Organic Evolution (3) F Huckaby, Kroman**

Prerequisites: Biology 370 and one of the five following courses: Biology 313, 332, 333, 434, 439. A synopsis of some of the major concepts, theories and processes of organic evolution emphasizing the mechanisms of adaptation and isolation and their role in speciation. (Lecture 3 hours.)

**517. Polychaete Systematics (3) F, alternate years Reish**

Prerequisite: Biology 417 or consent of instructor. Identification of polychaetous annelids. (Lecture 1 hour, laboratory and field 6 hours.)

**520. Advanced Ichthyology (2) F Bray**

Prerequisite: Biology 419. Selected subjects on distribution, classification, physiology, adaptations and life histories of fishes; emphasis on recent studies and new concepts. (Lecture 1 hour, laboratory and field 3 hours.)

**522. Advanced Ornithology (2) F Collins, Warter**

Prerequisite: Biology 424 or consent of instructor. Systematic survey of birds of the world with emphasis on systems of classification, morphology, evolution and distribution. Special consideration will be given to recent studies and new concepts. (Lecture 1 hour, laboratory 3 hours.)

**524. Principles of Animal Taxonomy (2) F Loomis**

Rules and problems in animal systematics; taxonomy as a tool in zoological studies. (Lecture 2 hours.)

**525. Advanced Parasitology (2) F Dailey**

Prerequisite: Biology 315 or consent of instructor. The metabolism, zoogeography, ecology and host-parasite relationships of animal parasites. (Lecture 2 hours.)

**526. Advanced Insect Systematics (2) S, alternate years Sleeper**

Prerequisite: Biology 418. Theory and philosophy of systematic entomology with emphasis on the phylogeny, zoogeography and nomenclature of the major orders. (Lecture 1 hour, laboratory 3 hours.)

**530. Advanced Cytology (2) S Kluss, Wood**

Prerequisite: Biology 430. Selected topics of current interest in cellular biology. (Lecture 2 hours.)

**531. Adaptive Vertebrate Morphology (3) S Warter**

Prerequisites: Biology 324 or 332 and consent of instructor. Morphological variations from the generalized vertebrate body plans, their adaptive significance and their modes of operation. Emphasis on locomotor, feeding and sensory mechanisms. (Lecture 2 hours, laboratory 3 hours.)

**532. Invertebrate Embryology (4) S Jenkins**

Prerequisites: Biology 313 and consent of instructor. Embryology of invertebrates except insects. Detailed account of the development of representatives of the invertebrate phyla Porifera through Tunicata. (Lecture 2 hours, laboratory 6 hours.)

**540. Radio-Chemical Techniques in Biology (4) F, alternate years Jenkins**

Prerequisites: Chemistry 327, five units of biological science. Chemistry 251 and 251L strongly recommended. Experience in use and handling of radioactive tracers in the biological sciences. (Lecture 2 hours, laboratory 6 hours.)

**541. Experimental Endocrinology (3) S Beekman, Schatzlein**

Prerequisite: Biology 443. Laboratory techniques basic to the understanding of endocrinology. Quantitative experiments concerning the endocrine control of metabolism, reproduction, differentiation and adaptation in organismic and molecular biology. (Lecture 1 hour, laboratory 6 hours.)

**542. Plant Growth and Development (3) F Lincoln**

Prerequisites: Biology 447, and one of the following: Biology 438, 439; consent of instructor. Laboratory techniques basic to an understanding of plant growth and development. Quantitative experiments concerning chemical and environmental control of differentiation both at the cellular and organismic level. (Lecture 1 hour, laboratory 6 hours.)

**545. Mammalian Metabolism (3) S Anand**

Prerequisite: Biology 440 or Chemistry 441A or Home Economics 331 or consent of instructor. Study of chemical and energy transformations in mammals with emphasis on intermediary metabolism and regulatory mechanisms of physiological processes. Not open to students with credit in Biology 445. (Lecture 3 hours.)

**550. Ecology of Marine Communities (3) S, alternate years Miller**

Prerequisites: Biology 350 or 456 and 260. Discussions of and field studies on ecological principles related to marine communities. (Lecture 2 hours, field 3 hours.)

**551. Plant Geography (2) F Mansfield-Jones**

Prerequisites: Biology 427 and one of the following: Biology 350, 450 or 456. Distribution of ancient and modern floras with reference to geological history and evolution. (Lecture 2 hours.)

**552. Zoogeography (2) S Warter**

Discussions of ecological and historical patterns of distribution of vertebrates on a world-wide basis. Current theories regarding origins of these patterns are examined. (Lecture 2 hours.)

**561. History of Biology (2) S Faculty**

Survey of development of the biological sciences, from ancient to modern times. (Lecture 2 hours.)

**562. Biometry (4) F,S Clover, Kroman**

Biostatistical analyses including data reduction and transformations; Gaussian, binomial and Poisson and probability models; significance tests and non-parametric methods; goodness of fit; correlation and linear regression; and the analysis of variance and co-variance and experimental design. Laboratory includes solving problems by calculators and computers. (Lecture 3 hours, laboratory 3 hours.)

**563. History of Entomology (2) F Sleeper**

Prerequisite: Biology 316. History of entomology with special reference to entomology of the western hemisphere. Effects of philosophy, religion, political and economic factors on growth of entomology. (Lecture 2 hours.)

**590. Special Topics in Biology (1-3) F,S 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 590 and/or 590L limited to six units. Topics will be announced in the *Schedule of Classes*. (Lecture 1-3 hours.)

**590L. Laboratory in Special Topics in Biology (1-3) F,S 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 590 and/or 590L limited to six units. Topics will be announced in the *Schedule of Classes*. (Laboratory 3-9 hours.)

**660. Seminar (1) F,S Faculty**

Prerequisite: Consent of instructor. Topics in biology to be presented by graduate students or by faculty members. May be repeated for credit.

**696. Research Methods (2) F,S Faculty**

Definition, methods of solution, and research methods in the biological sciences; emphasis on utilization of library. (Lecture 2 hours.)

**697. Directed Research (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Research on a specific subject in biology. Topic for study to be approved and directed by a faculty member in biological sciences. (May be repeated for credit to a maximum of 3 units.)

**698. Thesis (1-6) F,S Faculty**

Prerequisite: Consent of departmental graduate adviser. Planning, preparation and completion of a thesis in the biological sciences.

# Black Studies

## School of Social and Behavioral Sciences

**Department Chair:** Dr. Jim C. Robinson

**Associate Professors:** Hartsfield, Robinson, Uku.

**Assistant Professors:** Rahh, Ssensalo.

**Undergraduate Adviser:** 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 45 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.

**Social Science Requirement:** Six upper division units from other departments or programs of the School of Social and Behavioral Sciences. These units are in addition to those used to fulfill the requirements of any General Education category.

**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 Robinson

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. Afro-American History to 1865 (3) F Robinson, Uku

Survey course examining the major themes and issues in Africa before the slave trade as well as the role of blacks from colonial period to the end of the Civil War.

##### 121. Afro-American History 1865-Present (3) S Robinson, Uku

History of social, economic and political change in America after the reconstruction period. Black migration, education, cultural development and business enterprises will be examined.

##### 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.

##### 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.

##### 270A,B. Elementary Swahili (4,4) F, S Ssensalo

For those students who would like to learn the language either for its own sake or to use it as an asset for a major/minor in Black Studies or Linguistics. Emphasis will be placed on mastering the grammar and developing reading and writing skills. By the end of the course each student should be able to converse using proper pronunciation.

#### 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,

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 Hartsfield, Rahh

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, S Ssensalo

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 Ssensalo

Individual and group pursuit of special problems and projects in African and Caribbean literature.

##### 346. Black Theatre (3) F, S Ssensalo

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 Ssensalo

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, S Hartsfield, Robinson**

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 Rahh, Robinson**

Survey of Afro-American intellectual history with emphasis on social theories and polemic writing.

**404. Contemporary Issues of the Third World Nations (3) F, S Rahh, Robinson**

Study of the shifting power and international status of the black world. Among other topics, the course will focus on diplomacy, natural resources, revolution or political change and European involvement.

**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 Rahh, Robinson**

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) S Rahh, Robinson**

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, Ssensalo**

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.

**475. Racism and Sexism: An Analytical Approach (3) F, S Uku**

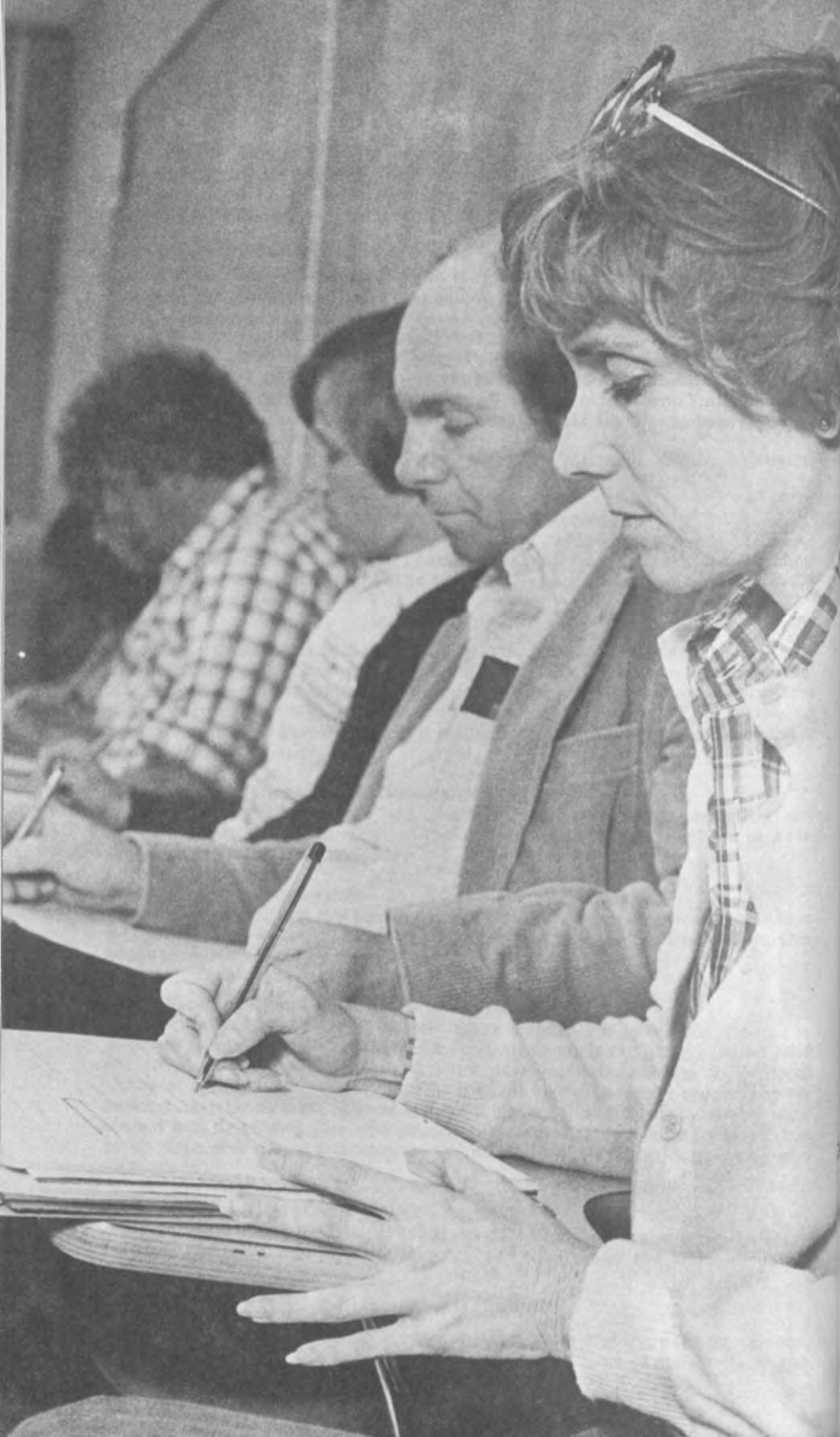
Identification and study of institutions, the constitution and problems resulting from racism and sexism in the U.S. and other cultures through the examination of legislation. Historical and theoretical outlines of racism and sexism in the black experience.

**490. Special Topics in Black Studies (1-3) F, S 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.



# Business Administration

## School of Business Administration

Dean: Dr. Seymour Marshak.

Associate Dean: Mr. John T. Martinelli.

The School of Business Administration seeks to prepare its students for entry into successful careers in business. As each graduate pursues a successful career, it is anticipated that personal responsibility will be accepted for maintaining and enhancing the quality of the society in which business and the individual operate.

Five objectives have been articulated by the faculty and by the School of Business Administration:

To develop the analytic abilities of the student through the varied courses to which each is exposed;

To develop proficiency in the business-related skills and abilities represented by the disciplines within the School;

To accept and implement responsibility for enhancement of ethical and moral behavior within the business community;

To encourage peer learning for the student as a foundation for continued intellectual progress throughout the career of the student;

To develop an awareness of the necessity for responding to change and an adaptability to the changes that are certain to occur.

### Accreditation

The School of Business Administration offers undergraduate and graduate programs of study. Both programs are nationally accredited by the American Assembly of Collegiate Schools of Business and may lead to completion of the following:

**Bachelor of Science in Business Administration.** Specialization may be made in a choice of the following areas, hereafter referred to in this *Bulletin* as options:

General Accounting  
Professional Accounting  
Administrative Systems  
Business Computer Methods  
Finance, Real Estate and Law

Human Resources Management  
Management  
Marketing  
Operations Management  
Quantitative Methods

**Minors in Business Administration**

The School of Business Administration has developed minors available to any student. Appropriate notation of completion will be made on the diploma. Significant preparation for business employment may be developed through completion of an organized program from one of the following areas:

Administrative Systems	Marketing
Human Resources Management	Quantitative Methods

**Certificate Programs**

Certificate programs, completed as a separate objective or in conjunction with a degree program, are offered in *International Business*, *Transportation* and *Quantitative Methods*.

**Master of Business Administration****Master of Science in Business Administration.**

Specialization in an area of major interest.

**Bureau of Business Research and Services**

The Bureau of Business Research and Services, maintained by the School of Business Administration, serves as a bridge to the community for presentation of executive development programs and for research coordination with business and industry. Jointly with the Office of Extended Education, the School, through the Bureau of Business Research and Services, presents work in management and other business topics in seminar or conference format.

**Academic Counseling and Advisement**

The School of Business Administration maintains an academic counseling and advisement office. Counselors are available in this office throughout the semester to assist students with clearance of essential degree requirements, including General Education and transfer credit.

**Center for International Business**

The Certificate Program in International Business is administered by the Center for International Business. The function of the Center and of the program is to advance the career interests of those students concentrating on a career in international business.

**Center for Transportation Studies**

The Certificate Program in Transportation is administered by the Center for Transportation Studies. The function of the Center and of the program is to advance the career interests of those students concentrating on a career in transportation.

**Student Organizations**

Numerous leadership organizations are available for business students. Among the organizations of special interest to business students are: The American Marketing Association, Beta Alpha Psi Accounting Society, Finance Association, Personnel and Industrial Relations Association, the Quantitative Systems Students Organization, The Society for the Advancement of Management. Additional organizations include: The Law Society, Beta Gamma Sigma, The International Association for Students of Business and Economics, Pi Sigma Epsilon, and Alpha Kappa Psi.

The Associated Business Students Organization Council is a facilitating and coordinating organization for business student organizations. ABSOC is composed of elected officers from each organization. Through these student organizations, each year business students are provided opportunity to meet representatives of business and industry. Prominent executives are, in addition, invited to the campus for dialogue with business students.

Beta Gamma Sigma is an honor society for students in business. Students are elected to membership based on demonstration of outstanding scholarship. To be eligible for membership, students must rank in the upper three percent of their junior class or in the upper seven percent of their senior class. Graduate students who rank in the upper thirteen percent of those receiving the master's degree will be eligible for membership.

**Financial Assistance**

Financial and advisory assistance is provided business students through the University Financial Aid Center. That office administers funds made available through the federal and state governments and through certain private sources. Awards are made to students who demonstrate a need for assistance with educational expenses.

Financial assistance of a more specific nature is rendered to students within the School of Business Administration through selected scholarships, fellowships, and tutorial assistance. Consult the Office of the Director of Graduate and Undergraduate Studies for information and assistance.

Project Achievement is an organized activity developed to attract contributions to be used for financial assistance of students with a high grade-point average who need financial assistance to enter or continue in School of Business Administration programs.

The Real Estate profession, through the Long Beach Board of Realtors, provides financial support through a number of annual fellowships in the amount of \$1,000 each and scholarships of \$500 each. Several additional scholarships are made available from individual donors.

The Sea Land Corporation awards annually four two-year scholarships of \$2,000 per year each, payable at the rate of \$200 monthly, to students who demonstrate interest in transportation or in international business. Two scholarships are awarded in the spring semester, and two are awarded in the fall semester.

**Board of Advisors**

The School of Business Administration meets periodically with a distinguished board of advisors composed of executives in the region. Two-way communication between the School and the business community is enhanced through the personal involvement of the Board.

**Computer Technology**

Every student in the degree program develops basic understandings and competencies relating to information processing, the application of computers in business and government, and computer programming. A terminal facility is maintained within the School to provide computer access for business students.

**Business Courses for General Education or Elective Credit**

Students in other schools of the University may elect courses offered by various departments in the School of Business Administration for application as either general education or elective credit. Prerequisites for such courses must be observed.

**Requirements**

Specific University and School requirements are detailed in various sections of this *Bulletin*. Every student must develop complete familiarity and understanding of the requirements by which successful completion of a program will be determined. Business majors may not exercise a Credit-No Credit grading option for courses required by the School of Business Administration in their program.



## Undergraduate Programs

### Bachelor of Science Degree in Business Administration

#### Degree Requirements

A minimum of 124 units will be required for all options in business with the exception of Professional Accounting, which requires a minimum of 128 units. The degree program must include:

1. A minimum of 50 units in courses outside the School of Business Administration, to include:
  - a. University's General Education requirements. Business majors may not apply courses offered by the School of Business Administration toward General Education requirements.
  - b. Economics 200.
  - c. Economics 201.
  - d. Mathematics 114.
  - e. Mathematics 115B.
  - f. Philosophy 160 or 170 (Accounting majors must take 160).
2. A minimum of 51-54 units in business administration and related courses to include:
  - a. Lower Division Core Requirements: Nine units
    1. Accounting 201
    2. Finance 222
    3. Quantitative Systems 240
  - b. Upper Division Core Requirements: 27 units
    1. Accounting 310 (accounting majors must substitute Accounting 320)
    2. Economics 333
    3. Finance 324
    4. Finance 362
    5. Human Resources Management 360 or 361 (Management majors and operations management majors must take HRM 361)
    6. Management 300
    7. Management 425 (senior status)
    8. Marketing 300
    9. Quantitative Systems 310
  - c. Completion of at least one option of 15 to 18 units as selected from General Accounting, Professional Accounting, Administrative Systems, Business Computer Methods, Finance, Real Estate and Law, Human Resources Management, Management, Marketing, Operations Management or Quantitative Methods. Business Administration majors who complete two options may be regarded as having completed a double major, and appropriate notation can be made.
3. Elective units to total 124. Professional Accounting must total 128 units. Elective freedom will vary from 0 to 23 units depending upon transfer credit. Each student is encouraged to select electives for expansion of knowledge and intellectual interests as well as for preparation for business employment. The School of Business Administration offers many specialized courses in the varied disciplines which may be utilized for elective credit. Students may consult the Counseling Office, School of Business Administration, for advisement in selection of electives.
4. Additional requirements: Accounting majors must complete English 303, finance majors must complete either Quantitative Systems 402 or English 303.

#### 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 for a dynamic business environment. On a broad base of general education and business

administration courses, the accounting program develops an understanding of an organization's management information system. The general accounting program provides a background for the student interested in accounting as a career in business enterprises, and for the person planning on entering the field of public accounting. The professional accounting program provides somewhat more flexibility for the student interested in employment in the business enterprises, not-for-profit organizations, or in the field of public accounting.

#### General Accounting Option Requirements:

1. Accounting 300A-B, 400, 450, 470.
2. Philosophy 160.
3. English 303.

#### Professional Accounting Option Requirements:

1. Accounting 300A-B.
2. Philosophy 160.
3. English 303.
4. Concentration in public accounting: Accounting 400, 470, and six units selected from the 400-level accounting courses.
5. Business or not-for-profit accounting: Accounting 410, 475 and six units selected 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 responsibility as administrative managers and managers of office services in business, industry, education and government. It is designed to give an understanding of the problems of administrative management and a perception of the principles, procedures and abilities needed to solve these problems. The program includes a substantial number of competencies measured by the Certified Administrative Manager examination of the Administrative Management Society.

#### Administrative Systems Option Requirements:

Quantitative Systems 302, 331, 402, 432, 433.

#### Option in Business Computer Methods (code 3-2725)

This option, administered within the Quantitative Systems Department, provides preparation for computer-oriented careers in business, industry, education and government. It provides a foundation for problem-solving and decision making using the computer technology in such positions as data processing managers, systems analysts, data base managers or other administrative positions.

#### Business Computer Methods Option Requirements:

Quantitative Systems 402, 413, 432, 442, 445, 466.

#### Option in Finance, Real Estate and Law (code 3-2710)

The finance, real estate and law curricula offer education in the administration, techniques and regulations applicable to business finance, investments, insurance, 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 is directed toward the study of acquisition, administration and distribution of funds for the individual business firm as well as the supply of funds by individuals and institutions for investment in private enterprise. The finance, real estate and law major may direct the concentration toward financial management, investments, or real estate.

**Option Requirements:**

1. Finance 382.
2. Finance 302 or 342.
3. 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, 448, 449, 450, 452.
4. Either Quantitative Systems 402 or English 303.

**Option in Human Resources Management (code 3-2740)**

The human resources management option 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 study of interpersonal 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 students with theories and practices on which effective courses of action can be based. Human resources management majors may direct their concentration toward either personnel management or labor relations.

**Human Resources Management Option Requirements:**

1. Human Resources Management 360 or 361 (whichever is not taken in the core).
2. Human Resources Management 362.
3. Three courses from either:  
*Personnel Management:* Human Resources Management 446, 463, 484, 465.  
*Labor Relations:* Human Resources Management 440 and two courses chosen from Human Resources Management 445, 464, 465.

**Option in Management (code 3-2745)**

The objective of the management curriculum is to prepare students for a successful career in management of the business enterprise. Attention is given to the need to create and maintain a desirable internal environment. Interface of that environment with the external environment in relation to success of the enterprise is considered. Philosophical bases for the practice of management, ethical considerations and human values are stressed. With the educational background developed and with appropriate experience, the management graduate should find success and satisfaction in a management role.

**Management Option Requirements:**

1. Management 326 and 426.
2. Three of the following: Management 401, 405, 421, 422.

**Option in Marketing (code 3-2750)**

Marketing is a socially-oriented discipline. Within our economic system, the justification for a business enterprise, as with any other social institution, is best viewed as service through need satisfaction. Determination of the needs and wants of society or of a segment of society and provision of goods and services to satisfy those needs and wants is a function of marketing. Application of this consumer oriented marketing concept appears to result in both improved societal welfare and success of the individual business enterprise. The option in marketing is based on this concept.

Marketing is significant vocationally because of the numerous workers employed in distribution of goods and services. The number, variety and importance of managerial responsibilities requiring marketing competencies provide intellectually challenging and financially rewarding opportunities for the marketing-oriented business graduate.

**Marketing Option Requirements:**

1. Marketing 408.
2. Four courses selected from Group 1, Group 2 and Group 3. At least one course must be selected from each group and 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, 492.

Note: With approval, Marketing 495 or 497 may be applied to either Group 2 or Group 3.

**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 prerequisite for entry-level and advanced positions. Goods-producing and service-oriented industries are considered. 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 manpower, facilities, capital and informational inputs of organizations.

**Operations Management Option Requirements:**

1. Management 302, 401, 402.
2. 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 government organizations. It provides a foundation for problem solving and decision making using the methods of operations research and statistics in such positions as operations research analysts, statistical analysts, and business researchers.

Emphasis is placed upon concepts and application to the business environment, rather than upon mathematical development of theory.

**Quantitative Methods Option Requirements:**

- Quantitative Systems 402, 410, 411, 442, 460, 463.

**Minors in Business Administration**

Minor programs of study in business administration, each requiring 18 or more units, are available for all students in the following areas: Administrative Systems, Human Resources Management, Marketing and Quantitative Methods. As with major fields of study, each minor has been carefully designed to ensure attainment of specific competencies in a significant area of specialization in business.

**Minor in Administrative Systems (code 0-2720)**

18 or more units including

1. Accounting 201
2. Quantitative Systems 240, 302, 331, 432
3. Either Quantitative Systems 402 or 433



**Minor in Human Resources Management (code 0-2740)**

18 or more units including

1. Human Resources Management 361
2. 15 or more units selected from Human Resources Management 360, 362, 440, 445, 446, 463, 464, 465, 466 or 495 as approved by the Human Resources Management Department

**Minor in Marketing (code 0-2750)**

18 or more units including

1. Marketing 300
2. 15 or more units selected from Marketing 310, 320, 330, 340, 380, 401, 403, 408, 430, 432, 440, 441, 442, 465, 470, 473, 480, 490, 492 or 495 as approved by the Marketing Department.

**Minor in Quantitative Methods (code 0-2772)**

18 or more units including Quantitative Systems 410, 411, 460, 463, 442 and 445 as approved by the Quantitative Systems Department

**Certificate in International Business: Undergraduate Program**

Phenomenal growth of multi-national companies has been apparent in recent years, with increasing internationalization of the business world. Multi-national firms, governmental agencies, and varied international organizations express heightened demand for management personnel with a broad, global perspective.

The Certificate in International Business, Undergraduate Program, combines an undergraduate degree in business with additional training in the area of international business beyond that normally included in a traditional business program. The objective of the program is to enhance the scope and perception of the business student to include the international business environment.

Courses used to meet requirements for the Certificate in International Business may also apply toward School of Business Administration requirements for degree, option or minor. Students other than business majors may find application of certain courses to General Education requirements.

**Requirements for the Certificate in International Business: Undergraduate Program**

1. A Bachelor of Science degree in Business Administration. This requirement may be completed concurrently with certificate requirements.
2. Fifteen units or more of study at this University in international business, to include: Accounting 465, Finance 490, Management 405, Marketing 380, and Marketing 480.
3. A grade of C or higher will be required in each course completed.
4. The Certificate Program does not permit use of the Credit/No Credit option.

Students with specific geographic areas of interest should consider development of language competence and cultural understanding relative to their area of interest concurrent with their Certificate Program.

For additional information or for application to the program, interested persons may contact the Director of the Certificate Program in International Business, School of Business Administration or the Counseling Office.

**Certificate in Quantitative Methods**

The Quantitative Systems Department offers a Certificate in Quantitative Methods, designed to give students an understanding of the principles, procedures and abilities needed to solve the problems faced by business statisticians, operations researchers and computer programmers.

The quantitative methods program prepares students for making scientific analyses and decisions relative to problems that may confront them in the industrial, business or governmental environments. It provides a foundation for problem solving and decision making using the methods of statistics, operations

research and computer technology. Operations research analysts, data processing managers, systems analysts, and other present and potential administrators may benefit from this program.

**Requirements for the Certificate in Quantitative Methods**

1. A bachelor's degree which may be taken concurrently with the certificate requirements.
2. A total of 18 units or more of Quantitative Methods at this University to include Quantitative Systems 410, 411, 460, 463, 442, 445.
3. A grade of C or higher will be required in every course taken for the certificate program.
4. The program does not permit use of the Credit/No Credit option.

Any deviation from this program requires the written approval of the program director.

For further information or application to the program contact the Director of the Certificate Program in Quantitative Methods, Quantitative Systems Department or the Counseling Office.

**Certificate in Transportation**

Long Beach, containing one of the world's most modern and successful maritime commerce and international transportation centers, is situated in a unique and rapidly growing international hub of transportation. Surrounding its port facilities are major commercial airports, transcontinental railroads, and numerous trucking companies.

The Long Beach-Los Angeles metropolitan area presents a challenging set of transportation realities. Stimulated by national concern over energy conservation and concern over the unfavorable balance of trade occasioned by expenditures for energy, an increased concentration of attention and resources of industry and government may be anticipated. The transportation facilities, systems and problems that characterize the community served by the School of Business Administration of California State University, Long Beach provide an ideal laboratory for the serious student of transportation.

The Certificate in Transportation is a program of preparation for professional competence in transportation which may be completed in conjunction with an undergraduate major in Business Administration or as a separate objective. Courses used to meet the requirements for a Certificate in Transportation may also be utilized to satisfy School of Business Administration requirements for degree, option or minor. Students other than business majors may find application of certain courses to General Education requirements.

**Requirements for the Certificate in Transportation**

1. A bachelor of science degree in Business Administration which may be completed concurrently with the certificate requirements.
2. A minimum of 15 units of transportation and transportation-related course work at California State University, Long Beach to be selected from the following: Marketing 340, 380, 442, 465; Economics 331; Management 407 and Civil Engineering 426.  
The following courses may be selected with the approval of the Program Director: Marketing 495 and 497.
3. A grade of C or higher will be required for every course.
4. The certificate program does not permit the use of the Credit/No Credit option.

For additional information and applications, students should contact the Director of the Certificate in Transportation program, School of Business Administration or the Counseling Office.



### Concurrent Enrollment

Undergraduate students who wish to take course work in a community college or another university or college to meet CSULB School of Business Administration or General Education requirements must carefully observe University and School requirements. See "Registration Procedures" and "Transfer of Undergraduate Credit" in this Bulletin. Consult with the Counseling Office for assistance with the appropriate petition.

### Graduate Programs

The School of Business Administration (SBA) offers graduate study leading to either the Master of Business Administration (MBA), a program of breadth, or a Master of Science degree in Business Administration with a field of specialization. All degrees offered by the School of Business Administration are fully accredited by the American Assembly of Collegiate Schools of Business.

School of Business Administration graduate programs are designed for students with a recognized baccalaureate degree from an accredited college or university. This degree may be in business or a field other than business.

Both the MBA and MS degrees are designed to serve the community by providing graduate business education to persons who show promise of leadership and success in business or related fields. For this reason, the faculty of the School of Business Administration has established rigorous standards of admission and completion for the program.

The School of Business Administration graduate program has seven educational objectives.

To develop a proficiency in the identification, analysis and solution of major problems in the management of an enterprise.

To develop an understanding of the functional areas within the enterprise and a high proficiency in the skills essential to the disciplines encompassed by the School of Business Administration.

To instill a respect for the highest levels of ethical behavior and an appreciation of personal and organizational responsibilities in natural, social, political and economic environments.

To inspire a recognition of managerial accountability.

To foster peer learning and establish a foundation for lifetime learning development.

To enhance an awareness of the need for adaptability to change in order to achieve personal, organizational, and social objectives.

To develop the ability to communicate effectively and with credibility and sensitivity.

#### Admission to Graduate Study

In addition to admission by the University Office of Admissions and Records, an applicant for graduate study in business must apply to and be admitted by the School of Business Administration. Admission procedures require that the School of Business Administration Office of Graduate Studies must have in its files:

1. The University application form, Part B.
2. The Graduate Management Admissions Test report form for the applicant, received by the School of Business Administration directly from Educational Testing Service.
3. An official transcript from each post-secondary institution attended by the applicant. Transcripts, based upon student request, must be sent directly to the School of Business Administration, Office of Graduate Studies, 1250 Bellflower Boulevard, Long Beach, CA 90840.

Requests for application forms should be addressed to the University Office of Admissions and Records. Part A of the application form serves as an application for admission to the University as an unclassified graduate student. Part B serves as an application to the School of Business Administration. Admission to the

University as an unclassified graduate student does not constitute admission for graduate study in the School of Business Administration. School of Business Administration courses labeled 500 or higher may not be taken by a student who has *not* been admitted to the School of Business Administration graduate program. Courses taken prior to admission into the School of Business Administration graduate program, whether graduate or undergraduate courses, may apply only in a very limited manner toward degree requirements. Consult the Office of Graduate Studies for advisement.

Applicants must take the Graduate Management Admissions Test and request that results be forwarded to the School of Business Administration Graduate Office before consideration can be given to admission. Applications for the GMAT may be obtained from the School of Business Administration Graduate Office or from the University Testing Office.

Official transcripts of all college work must be filed separately with the University Office of Admissions and Records and with the School of Business Administration Graduate Office. Transcripts must be sent directly to the Office of Graduate Studies, School of Business Administration.

Admission to the School of Business Administration graduate programs is based on a combined objective measure of scholastic achievement and aptitude for graduate business study as indicated by the official transcript and by performance on the GMAT. Consult with the Office of Graduate Studies or refer to the Graduate Handbook prepared by the School for details of determination of eligibility.

A degree in business is not a requirement for admission to graduate study in business. Every graduate degree curriculum, however, presupposes mastery of some common body of knowledge. This requirement may be satisfied by completion of a set of prerequisite courses following admission to the School of Business Administration and before enrolling in the main body of courses, those numbered 502 and higher. Students with a bachelor's degree in business administration from this University or from other accredited institutions will have met many of the prerequisite requirements. Evaluation of transcripts and determination of prerequisites remaining to be satisfied is a function of the Counseling Office.

#### Scholastic Standards

Learning is viewed as a function of motivation, academic aptitude and circumstances. Since there is a high demand for spaces, a limit is imposed to the number of times students may attempt to demonstrate their ability to meet minimum standards.

A student who was not successful in maintaining a cumulative grade point average of 3.0 or higher in work completed as a graduate student at another institution will not be considered for admission. A student who fails to maintain a cumulative grade point average of 3.0 or higher in all work completed as a graduate student at this University and in all work completed at the University combined with work transferred from other institutions will be placed on academic probation.

A student on probation, who at the end of the second probationary semester fails to obtain a cumulative grade point average of 3.0 or higher on all units attempted in post baccalaureate work at CSULB, shall be disqualified and removed from the graduate program. The student should note that the cumulative GPA is calculated by the University Admissions and Records Office and includes all upper division and graduate courses taken.

A grade of C or better is required in any course taken to satisfy prerequisites or as part of a student's graduate program. A grade of B or better is required in GBA 699. If either of these requirements is not met, a student must take the course a second time or withdraw from the program. A second failure to achieve the required grade will result in involuntary separation from the program. This requirement operates independently of the requirement for a cumulative GPA of 3.0 or better.

The School of Business Administration is committed to producing graduates of the highest caliber. Students come to the graduate programs from varied backgrounds. Through the program each student rises to demonstrable levels of achievement in crucial areas of competence. Throughout the program the

necessity for individualization is recognized. Courses considered essential to the development of required competencies may be added to a student's program by the Director of Graduate Studies at the time of advancement to candidacy.

#### Master of Business Administration Degree (code 7-2701)

The Master of Business Administration program develops competencies essential to functioning professionally in a complex and competitive business environment. The program provides preparation for responsible administrative positions and the background essential for advancement in professional management careers. The Master of Business Administration degree is based on a solid foundation of skills upon which the student is urged to build a wide range of competencies required for effective management. A program of breadth, the Master of Business Administration is not directed toward intensive specialization in a limited area of business. Students desiring a specialized graduate program in business are urged to consider the Master of Science degree options in Accounting, Administrative Systems, Finance, Human Resources Management, Management, Marketing, Operations Management, and Quantitative Methods offered by the School of Business Administration.

#### Prerequisites

While a bachelor's degree in business administration is not a prerequisite to admission to the Master of Business Administration program, the 33 units of graduate study required for the MBA rest upon completion of a common body of knowledge normally developed in an undergraduate business program. Transcripts of business administration graduates and those whose degree was in a field other than business will be evaluated to determine the extent to which that common body of knowledge has been developed. For efficiency of completion of the essential study which must precede the 33-unit MBA graduate program, a series of 500-level courses in critical areas of business study have been developed. A student who has completed a minimum of 24 units of approved study in business administration and economics which include the following courses or equivalent will be considered to have satisfied the common body of knowledge prerequisite to the MBA program: Accounting 500, Finance 500, Finance 501, Human Resources Management 500, Management 500, Marketing 500, Quantitative Systems 500 and Economics 500.

Students with prerequisite areas which remain to be satisfied may complete the required 500-level course in that area following admission to the School of Business Administration graduate program. Inasmuch as students who have not been admitted to the business graduate program may not undertake 500 level or above courses, undergraduate course equivalents as assigned by the Director of Graduate Studies may serve a similar function. Each student is urged to study the School of Business Administration *Graduate Handbook* and to consult with the School of Business Administration Counseling Office.

#### Requirements for the Master of Business Administration

The Master of Business Administration degree requires 33 units of graduate study approved by the Director of Graduate Studies beyond the baccalaureate degree and following satisfaction of prerequisites. No course to complete either requirement may be included in the 33-unit program. Of the 33 units, 9 are required: GBA 500, GBA 690, and GBA 699. Not more than six units of the remaining 24 may be taken within any one department: The Department of Accountancy; the Department of Finance, Real Estate, and Law; the Marketing Department; or the Quantitative Systems Department. Because the Management and Human Resources Management Department represents two professional disciplines, two courses may be taken from each discipline of that department with approval. Students are urged to allocate their studies among designated departments and disciplines to achieve the breadth required of the MBA graduate. The MBA terminal evaluation, GBA 699, will require integration of essential competencies from each area.

All course work in the Master of Business Administration or in the Master of Science Degree in Business Administration programs must be completed within seven years from the date of completion of the first course in the 33-unit program.

#### Advancement to Candidacy

An individual program is governed by requirements of the University and the School of Business Administration in effect at the time of advancement to candidacy; each student is urged to file for advancement to candidacy when eligible. This essential, formal procedure includes approval of the 33-unit program of study by the Director of Graduate Studies. Application for advancement to candidacy must be accomplished during the semester preceding the semester in which completion of the last course requirements and graduation are anticipated. Advancement to candidacy must precede enrollment in GBA 699, Integrated Analysis.

Advancement to Candidacy for a graduate student in the School of Business Administration is contingent upon completion of the following requirements:

1. Acceptance into the graduate program of the School of Business Administration by the Office of Graduate Studies of the School.
2. Establishment of the degree objective with the Admissions and Records Office of the University.
3. Completion of all prerequisite courses.
4. A minimum grade-point average of 3.0 in all work completed as a graduate student at this University and transferred from other institutions.
5. Satisfaction of University requirements for advancement to candidacy.

The Master of Business Administration program requires completion of a minimum of 33 units as established and approved by the Director of Graduate Studies, School of Business Administration. The MBA program must include:

GBA 500	3Units	Research Methodology	This preliminary research requirement must be completed early in the program of each graduate degree candidate in Business Administration. For students admitted to the program, the requirement may be completed concurrently with satisfaction of prerequisites. It should be completed not later than the first semester following completion of prerequisites.
GBA 690	3Units	Applied Research	Prerequisite: GBA 500. GBA 690, based on course content of GBA 500, should be completed in the semester following completion of GBA 500.
	18Units	Graduate Business Courses: 502-600	A minimum of 18 units of graduate business courses numbered 502-600 will be selected with advisement from: Accounting, Administrative Systems, Finance, Human Resources Management, Management, Marketing, or Quantitative Systems. Not more than six units of the 33 unit MBA program may be from any one area.



6 Units Graduate Business Courses: 502-600 or Approved Upper Division 400 Level Courses

Additional 502-600 level graduate business courses or approved upper division 400-level business courses will be selected from the above areas to meet the 33-unit minimum program requirement. Designated by an asterisk in this *Bulletin*, approved 400-level courses must be taken in graduate status and may be taken by unclassified graduate students before admission to the business program. The limitation of not more than six units of the 33-unit MBA program from any one area includes units from this requirement.

GBA 699 3 Units Integrated Analysis

A comprehensive integration of the MBA learning experiences, this capstone course serves in place of either comprehensive examination or thesis as the required evaluation of candidate competency. In addition, however, to completion of the required GBA 699, an MBA candidate may elect to complete a thesis for a minimum of four units credit.

Total: 33 Units Minimum

Application for acceptance into GBA 699 must be filed in the Graduate Office before the end of the fourth week of instruction in the semester preceding enrollment. Application forms and advisement relating to this important requirement are available in the Graduate Office of the School of Business Administration.

**Master of Science Degree in Business Administration**

The Master of Science Degree in Business Administration provides opportunity for specialization in an area of business administration of greatest interest to the student. Specialization is available in Accounting, Administrative Systems, Finance, Human Resources Management, Management, Marketing, Operations Management, or Quantitative Methods. An individual with well-defined career goals within a specialized field may find that the Master of Science Degree provides the intensive graduate business study desired.

**Prerequisites**

See individual areas of specialization or options for prerequisites applicable to that program.

While a bachelor's degree in business administration is not a prerequisite for admission to the Master of Science degree program, the 33 units of graduate study required for the degree rest upon completion of a common body of knowledge normally developed in an undergraduate business program.

**Master of Science Degree Requirements**

The Master of Science Degree in Business Administration requires completion of a minimum program of 33 units beyond satisfaction of prerequisites as approved by the Director of Graduate Studies. Election of the thesis option may result in a program in excess of 33 units.

GBA 500, Research Methodology, and GBA 690, Applied Research, provide an important foundation for the program. With approval of a specific project of applied research, GBA 697, Directed studies in the department of specialization, may be substituted for GBA 690. The Master of Science program, a minimum program of 33 units beyond satisfaction of prerequisites, will be developed jointly by the department of specialization and the Graduate Office.

**Degree Requirements**

The Master of Science Degree, regardless of specialization, must include:

GBA 500	3 Units	Research Methodology	(described previously)
GBA 690	3 Units	Applied Research	(described previously)
or			
697	3 Units	Directed Study	Research Project in Department of specialization approved by Department and Director of Graduate Studies.
	15 Units	Graduate Business Courses: 502-600	A minimum of 15 units of graduate business courses numbered 502-600 will be selected with advisement from the department of specialization.
	8 to 12 Units	Graduate Business Courses	Additional 500-600 level graduate business courses or approved upper division 400 level business courses will be selected to meet the 33 unit minimum program requirement. Designated by an asterisk in this <i>Bulletin</i> , approved 400 level courses must be taken in graduate status. They may be taken by unclassified graduate students before admission to the business program.

One of the following terminal evaluations:

GBA 699	3 Units	Integrated Analysis	(described previously)
GBA 698	4 Units Minimum	Thesis	Planning, preparation, and completion of a thesis in business administration
	0 Units	Comprehensive Examination	Comprehensive examinations prepared by the department of specialization.

Total: 33 Units Minimum



Application for Acceptance into GBA 699, Integrated Analysis, must be filed in the Graduate Office before the end of the fourth week of instruction in the semester preceding enrollment. Application forms and advisement relating to this important requirement are available in the Graduate Office of the School of Business Administration.

*Advancement to Candidacy is attained in the same manner as with the Master of Business Administration degree.*

#### **Option in Accounting (code 6-2705)**

The Master of Science Degree Option in Accounting is designed to develop the expanded knowledge and skills which serve as the foundation for specialization in public accounting or an accounting management career in business or government. The program serves as a basis for further advanced graduate study in accounting. Understandings are developed relating to the socio-economic aspects of our society which place increased demands on the accounting profession. Graduate study in accounting is based upon a strong foundation of accounting prerequisites.

#### **Prerequisites**

1. The Department of Accountancy requires satisfaction of either of the following prerequisite sequences in accounting. Accounting 201 or equivalent is prerequisite to Accounting 300A or Accounting 501: Minimum of 15 Units.
  - a. Accounting 300AB, 320, 400, 450, and 470, or
  - b. Accounting 320, 400, 450, 470, and 501.

Students may contact the Chairperson of the Department of Accountancy concerning departmental prerequisites.

#### **Option in Administrative Systems (code 6-2720)**

The Master of Science Degree Option in Administrative Systems is designed to develop competencies required of the administrative manager in an expanding field comprising administrative systems, data processing, reprographics, micrographics, word processing, telecommunications, and records management in addition to the more traditional areas of office services. Instructors in the community college complete the degree as a subject matter area for the Community College Credential.

#### **Prerequisites**

1. The Quantitative Systems Department requires satisfaction of a minimum of 15 units of prerequisites, to include the following or equivalent: Quantitative Systems 302, 331, 402, 432, and 433

Students may contact the Chairperson of the Quantitative Systems Department concerning departmental prerequisites.

#### **Option in Finance, Real Estate, and Law (code 6-2710)**

The Master of Science Degree in Finance, Real Estate, and Law is designed to prepare individuals for staff positions in business, to provide instruction to community college instructors, to train research personnel, and to provide additional background for those whose interests or professions draw from the subject areas included within the Department.

The Department of Finance, Real Estate, and Law offers instruction in three fields: Financial Management, Investments, and Real Estate.

#### **Prerequisites**

1. The Department of Finance, Real Estate, and Law requires satisfaction of a minimum of 15 units of prerequisites in the field. Determined and approved by the Chairperson of the Department of Finance, Real Estate, and Law, these prerequisites will be equivalent to an undergraduate option in Finance, Real Estate, and Law.

#### **Option in Human Resources Management (code 6-2740)**

The graduate curriculum in human resources management has dual objectives. It prepares students for entry positions as technical specialists in personnel and industrial relations departments. It also serves as a step toward continuing graduate study in the field, offering breadth and depth. Courses direct attention to both individual and group behavior in working organizations and to the impacts of policy development. They emphasize the translation, interpretation, application and testing of relevant theory including contributions from the behavioral sciences.

#### **Prerequisites**

1. The Human Resources Management discipline, within the Management Department, requires satisfaction of a minimum of 15 units in human resources management. Determined and approved by the Chairperson of the Department, these prerequisites will be equivalent to an undergraduate option in human resources management.

Students should contact the Department Chairperson concerning departmental prerequisites.

#### **Option in Management (code 6-2745)**

The graduate curriculum in management is designed to provide the student with a graduate education in management theory, doctrine and activities. Students completing this degree will have the basis for successful experience in business so as to progress into middle and upper management positions, and eventually to reach top management positions. Management graduates are equipped not only to advance in private enterprise but also are qualified for management positions in nonbusiness organizations, such as government, universities, and various other institutions.

#### **Prerequisites**

1. The Management Department requires satisfaction of a minimum of 15 units of prerequisites in Management. Determined and approved by the Chairperson of the Management Department, these prerequisites will be equivalent to an undergraduate option in finance.

Students should contact the Department Chairperson concerning departmental prerequisites.

#### **Option in Marketing (code 6-2750)**

The master of science degree in marketing is intended to prepare graduates for the responsibility of management in marketing - the responsibility for devising, improving, and directing the policies, strategies, and techniques of marketing. It also prepares for a doctoral degree in marketing - a necessary requirement for those interested in either university teaching or sophisticated marketing research careers. The program is flexible, offering a balance between theoretical analysis and examination of established practices. It provides an opportunity for the student to explore the areas of marketing both in breadth and depth. Several areas of marketing offered include: advertising and promotion, consumer behavior, international marketing, logistics, and marketing research and analysis.

**Prerequisites**

1. The Marketing Department requires satisfaction of a minimum of 15 units of prerequisites in Marketing: Determined and approved by the Chairperson of the Department, these prerequisites will be equivalent to an undergraduate option in marketing.

Students should contact the Department Chairperson concerning departmental prerequisites.

**Option in Operations Management (code 6-2758)**

The graduate curriculum in operations management is intended to prepare the graduate for employment as a staff specialist in Operations Management of a wide variety of business enterprises and governmental institutions. Synthesis and analysis of the design, improvement, installation, and operations of integrated systems of people, materials, machines, and equipment are studied resulting in the specification, prediction and evaluation of the results to be obtained from such systems. The program is designed to present an organized body of knowledge dealing with the design of both continuous and intermittent processes for converting input factors into desired products and services produced.

**Prerequisites**

1. The Management Department requires satisfaction of a minimum of 15 units, including Management 500 or equivalent. Determined and approved by the Chairperson of the Department, these prerequisites will be equivalent to an undergraduate option in operations management.

Students should contact the Department Chairperson concerning departmental prerequisites.

**Option in Quantitative Methods (code 6-2772)**

The graduate curriculum in quantitative methods is designed to develop quantitative abilities in the management sciences. Emphasis is placed on the interaction of economists, behavioral scientists, social scientists, mathematicians, engineers, computer specialists, etc., with the development of viable solutions to problems arising in the business environment. This option offers instruction in three fields: Operations Research, Statistics; and Computer Methods.

**Prerequisites**

1. The Quantitative Systems Department requires satisfaction of a minimum of 15 units of prerequisites in Quantitative Systems courses, to include the following courses or equivalent: Quantitative Systems 410, 411, 442, 460, and courses as required by the Department from QS 413, 445, or 463.

Students should contact the Department Chairperson concerning departmental prerequisites.

**Certificate in International Business: Graduate Program**

International business is a rapidly growing field requiring trained specialists in this area for service both domestically and abroad. International trade is reaching ever higher levels, with the U.S. accounting for a large portion of the total. Thus, few businessmen can continue to afford to be unconcerned about the impact of international business upon their welfare.

The Certificate in International Business is designed for those who are already in the business graduate program, or for those who are qualified for graduate study in business. The program provides a level of business education not available in the traditional business courses. The objective of this program is to enhance the perception and adaptation of the student's personal and educational background to the international business environment.

**Requirements for the Certificate in International Business**

1. An undergraduate degree in business administration, or completion of a common body of knowledge normally developed in an undergraduate business program.
2. Application to and approval of the Director, International Business Center and Director, Graduate Studies, School of Business Administration.
3. A minimum of 18 units of graduate international business coursework at California State University, Long Beach.
  - (a) Management 543, Human Resources Management 552, Marketing 666, Finance 691.
  - (b) Two courses from the following: Marketing 667A, 667B, 667C, 667D.
4. A minimum grade point average of 3.0 must be maintained in all the courses taken for the certificate program. Courses with a grade lower than a C may not be applied to the program.
5. No more than six units of these 18 units may be used to fulfill the basic 33-unit M.B.A. or M.S. in business requirements at this University.

Modification of the Certificate in International Business graduate program will require written approval of the Director, International Business Center. Students with specific geographic areas of interest should consider development of language competency and cultural understanding relating to their area of major interest.

For additional information or for application to the program, interested persons may contact the Director of the Certificate in International Business graduate program, International Business Center, School of Business Administration.

**Graduate Business Administration****500. Research Methodology (3) F,S Faculty**

Prerequisite: QS 500 or equivalent. Scientific methods of research; variation in research methodology and design. The application of research findings to major phases of business.

**690. Applied Research (3) F,S Faculty**

Prerequisite: GBA 500. Application of research methodology in an individual research project. Emphasis is on experimentation, simulation and surveys. Utilizes background of specific statistical tools and techniques and an understanding of theory development and research design.

**698. Thesis (2-4) F,S Faculty**

Prerequisite: GBA 500. Planning, preparation, and completion of a thesis in business administration.

**699. Integrated Analysis (3) F,S Faculty**

Prerequisites: Classified MBA/MS status in the last semester or within six units of completion of the 33-unit minimum graduate program and advanced to candidacy. A comprehensive course which serves as the required terminal examination for School of Business Administration graduate candidates. A project is required. A study of a wide range of business problems and formulation of solutions to them. The object of this course is to assess student skills in integrating knowledge from all functional areas of business and applying them to complex business problems arising out of changing technology, competitive market conditions, social changes and governmental actions. The methodology may include cases, business simulation, and team teaching. A grade of B or better is required for successful completion. Students must file application for entry into GBA 699 no later than the fourth week of instruction in the semester preceding the one in which GBA 699 will be taken. Application forms are available in the SBA Graduate Office.

# Chemical Engineering

## School of Engineering

**Department Chair:** Dr. John M. Lenoir.

**Professors:** Hife, Lenoir.

**Undergraduate Adviser:** 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.

### Chemical Engineering Professional Advisory Council

The Chemical Engineering Professional Advisory Council has been established in the belief that it would provide a positive influence in maintaining and further developing a program that reflects a consciousness of the need for technical excellence and a realistic view of industrial needs. Current members of the council are:

- Mr. Jack Brocoff, Ralph M. Parsons, Co.
- Dr. Richard G. Ischinger, Hallingers Engineers
- Mr. George Keller, Franctionation Research, Inc.
- Ms. Marie La Fond, Atlantic Richfield Co.
- Mr. Carl H. Unruh, CF Braun & Co.
- Mr. John R. Williams, Atlantic Richfield Co.

### 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, 205.

*Upper Division:* Ch.E. 310, 320, 330, 410, 420, 430, 440, 450, 460, 470; C.E. 406; M.E. 425; Chemistry 321A, 322, 371A, 372; Mathematics 370A; Economics 300; 3 units of approved engineering electives; 3 units of technical writing; approved electives to total a minimum of 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. (Lecture-problems 3 hours.)

**205. Computer Methods in Chemical Engineering (2) F,S Hile**

Prerequisites: Chemistry 111A, Mathematics 122, Physics 151. Beginning Fortran programming applied to typical problems in chemical engineering and chemistry. Not open to students with credit in Chemical Engineering 305. (Lecture-problems 1 hour, laboratory 3 hours.)

## Upper Division

**300. The Chemical Industry (2) F, odd years Hile**

Prerequisite: Chemistry 111A. Survey of industrial chemical processing techniques and the activities of engineers in this area, illustrated by field trips, speakers, professional society meetings, films, readings, etc. (Lecture-problems 1 hour, laboratory 3 hours.)

**310. Chemical Engineering Thermodynamics I (3) F,S 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) F,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) F,S Hile, Lenoir**

Prerequisites: Ch.E. 200, 205. 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,S Lenoir**

Prerequisite: Ch.E. 310. Multiphase properties including advanced equations of state. (Lecture-problems 3 hours.)

**420. Heat and Mass Transport (3) F,S 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.)

**425. Polymer Synthesis and Characterization (3) S Hile**

Prerequisite: Chemistry 321A 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,S Hile, Lenoir**

Prerequisite or corequisite: Chemistry 372. 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.)

**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.)

**460. Chemical Process Control (3) F,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.)

**470. Chemical Engineering Design (4) F,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.)

**475. Environmental Pollution (3) F Hile**

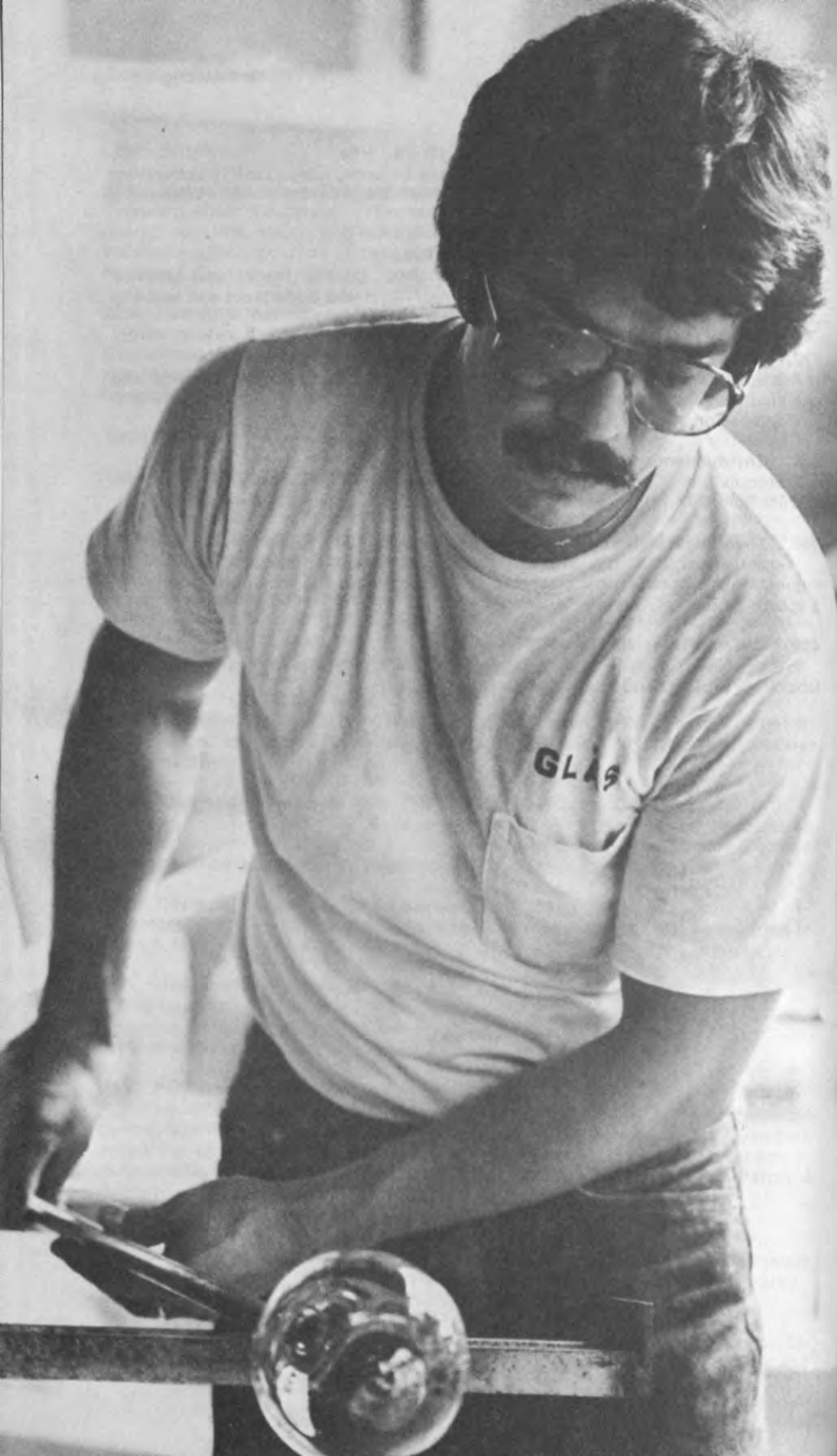
Prerequisites: Chemistry 111A-B. Recommended: Chemistry 321A, 371A. Application of chemistry to the problems of pollution. (Lecture-problems 3 hours.)

**480. Theoretical Methods in Chemical Engineering (3) F, even years Hile**

Prerequisites: Ch.E. 205, 310, 420, 430. Simulation and optimization of chemical engineering processes by mathematical formulation and computer modeling. (Lecture-problems 3 hours.)

**490. Special Problems (1) F,S Faculty**

Prerequisite: Consent of instructor. Assigned topics in technical literature or laboratory projects and reports on same.



# Chemistry

## School of Natural Sciences

**Department Chair:** Dr. Kenneth L. Marsi.

**Emeriti:** Julie V.N. Kierbow, Clyde E. Osborne, Donald H. Simonsen.

**Professors:** Bauer, Becker, Devore, Goldish, Harris, Henderson, Jensen, Kalbus, Lieu, Loeschen, Marsi, Mayfield, Perlgut, Po, Senozan, Stern, Tharp, Wynston.

**Associate Professors:** Baine, Berry, Hunt, Maricich.

**Assistant Professors:** Berryhill, Cohlberg, Dunne, McGown, Maricich.

**Undergraduate Advisers:** Dr. Edwin Harris, Dr. James Jensen, Dr. Robert Loeschen, Dr. Kenneth L. Marsi, Dr. A.G. Thorp.

**Graduate Adviser in Chemistry:** Henry N. Po.

**Graduate Adviser in Biochemistry:** Louis E. Perlgut.

**Graduate Studies Committee:** Po, chairman; Perlgut, Senozan, Wynston.

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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. degree in chemistry is certified by the American Chemical Society.

The Department of Chemistry offers graduate study leading to research-based master of science degrees in chemistry and biochemistry. The candidate is urged to observe the general requirements stated in this *Bulletin* as well as the specific departmental requirements stated here and, more fully, in the *Graduate Studies Brochure* of the Department of Chemistry, available upon request.

A limited number of teaching, graduate and research assistantships are available. Usually, these involve half-time work in the instructional program at the freshman level or work in the laboratory. Application forms for these positions are available from the Graduate Adviser, Department of Chemistry.

### Chemistry Department Advisory Council

This council, including persons prominent in the community, fosters communication between academic and industrial chemistry. It advises the department concerning the instructional program and informs the department of opportunities for interaction with the community.

Mr. W.H. Bonham, Shell Oil Co.

Dr. Joseph R. Brown, Jr., Park Investment Co.

Dr. Norman Byrd, Branch Manager of Chemical Research, Douglas Aircraft Co.

Mr. Ancel Calloway, Alumni Representative

Dr. John Farrar, Manager, Materials and Processes Laboratories Engineering, Rockwell International

Dr. Dan Gelfand, Stauffer Chemical Co.  
 Mr. Arnie Grant, Manager, Chemistry Dept., TRW  
 Dr. Melvin Hochberg, President, Rachele Laboratories, Inc.  
 Mr. Stephen L. Holst, Hyland Laboratories  
 Dr. Ken Kipers, Pilot Chemical Co.  
 Mr. D.J. Maffucio, Texaco, Inc.  
 Dr. Harold Moore, University of California, Irvine  
 Mr. Olsen Rogers, Los Angeles Dept. of Water and Power  
 Mr. Kenneth P. Stoub, AGRI Science Laboratories  
 Mr. Richard Stegemeier, Vice President, Research, Union Oil Co. of California  
 Mr. Clayton G. Wannamaker, Dow Chemical  
 Mr. Harold C. Weiss, West Coast Technical Services, Inc.

#### *Ex Officio Members*

Dr. Stephen Horn, President, CSULB  
 Dr. Kenneth L. Marsi, Chairman, Chemistry Dept.  
 Dr. Roger D. Bauer, Dean, School of Natural Sciences  
 Howard L. Still, Special Assistant to the President, CSULB

#### **Major in Chemistry for the Bachelor of Science Degree (code 3-7661)**

The bachelor of science degree program is intended to provide a thorough background in chemistry for those planning to pursue careers as professional chemists or to do graduate study in chemistry or biochemistry. This program, when supplemented with study in other appropriate areas can serve as preparation for admission to the health professional schools (medicine, dentistry, pharmacy, etc.). Each student should consult with a faculty adviser (Professors Harris, Jensen, Loeschen, Marsi or Tharp) to plan his or her individual program.

Chemistry majors must achieve a grade of C or better in all chemistry courses required for the major.

*Lower Division:* Chemistry 111A-B, 251; courses to support the major to include Physics 151, 152, 153 and Mathematics 122, 123, 224, and one of the following: Microbiology 210, Biology 212, 216. A reading knowledge of scientific German or Russian is required.

*Upper Division:* Chemistry 321A-B, 371A-B, 373, 385, 431, 451, English 300 or 317, and an additional six units of upper division chemistry. A maximum of three units from Chemistry 496 and Chemical Engineering 330, 425, 430 or 475 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. To receive credit towards the major for courses taken elsewhere in place of Chemistry 321A-B and/or 371A-B, consent of the department chair is required. Satisfactory performance on appropriate proficiency examinations may also be required.

#### **Major in Chemistry for the Bachelor of Arts Degree (code 2-7661)**

The bachelor of arts degree program in chemistry is intended to provide a general background in chemistry, but not in the depth required for a bachelor of science degree. This program, when complemented with study in other areas, will serve as preparation for a career in chemical and related industries or secondary science education. The bachelor of arts program is also an appropriate preparation for medical and dental schools, and for graduate programs in the life sciences. In order to take full advantage of the bachelor of arts program for various career objectives, adequate counseling by chemistry advisers is indispensable. Each student must confer with an adviser to set up his/her individually tailored program in chemistry and one or more complementary areas prior to beginning the course of study.

Chemistry majors must achieve a grade of C or better in all chemistry courses required for the major.

*Lower Division:* Chemistry 111A-B, 251; courses to support the major to include Physics 100A-B or 151, 152; and Mathematics 122, 123.

*Upper Division:* Chemistry 321A-B, 371A-B or 377A-B, 451; English 300 or 317. A minimum of 3 additional units to be chosen in consultation with an adviser must be taken from Chemistry 373, 385, 421, 422, 431, 441A, 441B, 451, 471, 472 or 496. Students must consult an adviser to select additional courses to meet the student's individual goals and interests.

*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-B, Chemistry 371A-B or Chemistry 377A-B which have been taken elsewhere, consent of the department chairman is required; also satisfactory performance on an organic chemistry proficiency examination may be required.

#### *Concurrent and/or Summer Enrollment in Another College*

Students who wish to take course work in a community or another college to meet curricular requirements while enrolled as undergraduates in the School of Natural Sciences 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.

#### **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.

#### **Graduate Credit Earned as an Undergraduate Chemistry Major**

Graduate credit usually may not be earned in advance of the baccalaureate degree. However, based upon the recommendation of the Chemistry Department Chairman and the Chairman of the Chemistry Department Graduate Committee, academic performance (a grade point average of 3.00 overall and 3.00 in the major), and promise of academic achievement in postgraduate study, a student in his/her senior year may be granted approval to earn a maximum of 12 units of course work in the 300, 400 and 500 level taken at this University toward his/her prospective graduate program, subject to the following conditions:

1. The course work must be *in addition* to that required by the Chemistry Department for the B.A. or B.S. degree in Chemistry.
2. The undergraduate student must have a "Petition to Earn Credit in the Senior Year" approved by the appropriate Department graduate adviser, the Graduate Dean, and the Director of Graduate Studies for the School of Natural Sciences.

#### **Master of Science Degree with a Major in Chemistry (code 6-7661)**

##### *Prerequisites*

1. Acceptance as a graduate student by the Chemistry Department.
2. A bachelor's degree with a major in chemistry, or:
3. A bachelor's degree with undergraduate preparation in chemistry, physics and mathematics equivalent to that required for the bachelor of science degree with a major in chemistry at this University.
4. Entering graduate students are required to take placement examinations in analytical, inorganic, organic and physical chemistry. Any student failing to take and pass a placement examination in any of these subjects is required to enroll in an appropriate course or audit a course and pass an examination in that field as recommended by the Graduate Studies Committee. Usually the recommended courses are:  
 Chemistry 451 if the subject is analytical chemistry  
 Chemistry 431 if the subject is inorganic chemistry  
 Chemistry 321A and/or 322 if the subject is organic chemistry  
 Chemistry 371A and/or 371B if the subject is physical chemistry



- The placement examinations will be given on Tuesday and Wednesday of the week preceding the first day of instruction. The Graduate Studies Committee evaluates the examinations and recommends appropriate courses to correct for any deficiencies in chemistry. The chemistry graduate adviser meets with the student at this time to prepare a tentative degree program.

#### Advancement to Candidacy

The department recommends advancement to candidacy after the graduate student has:

- Either passed the placement examinations in analytical, inorganic, organic and physical chemistry or received a grade of C or better in the courses as recommended by the Graduate Studies Committee for correcting deficiencies. (The student auditing courses to correct deficiencies is expected to file with the Graduate Studies Committee a statement from the instructor certifying at least C work.)
- Earned an average of at least 3.0 (B) average in all work completed at this University as a graduate student.
- Obtained approval of a graduate degree program by the chemistry graduate adviser, the department chairman (in consultation with the Graduate Studies Committee) and the Dean of Graduate Studies.

The student is expected to be advanced to candidacy by the beginning of the third semester of graduate work. Upon advancement to candidacy, a Thesis Committee will be selected in consultation with the Graduate Studies Committee.

#### Requirements for the Master of Science

- Advancement to candidacy at least one semester before the graduation date.
- The completion of a minimum of 30 units to be distributed in the following way:
  - Minimum of nine units in chemistry lecture courses in the 500 series (excluding Chemistry 595). These courses must be selected from at least two of the following fields: analytical, inorganic, organic, physical and biological chemistry.
  - Two units of Chemistry 595.
  - Maximum of 10 units of chemistry in the 600 series (one unit of 660, six units of 698 and up to three units of 697 and/or 691).
  - Nine to 12 units from 400 and 500 series courses (excluding Chemistry 595). The exact number of units depends on the number of 600 level courses taken. A minimum of six units is recommended from two of the following three areas: Chemistry 471 (or 472), 441A, 421. At the discretion of the Graduate Studies Committee equivalent courses taken as an undergraduate may meet these requirements but may not count toward the 30 unit requirement.

Changes in the above pattern of course requirements may be made only at the discretion of the Graduate Studies Committee and the chemistry graduate adviser.

- Completion of an acceptable thesis.

#### Master of Science Degree with a Major in Biochemistry (code 6-7658)

##### Prerequisites

- Acceptance as a graduate student by the Chemistry Department.
- A bachelor's degree with a major in chemistry or one of the biological sciences including courses in calculus and general microbiology. Students deficient in undergraduate preparation must take courses to remove these deficiencies with or without credit towards the degree.
- Entering graduate students are required to take placement examinations in analytical, biological, organic and physical chemistry. Any student failing to take and pass a placement examination in any of these subjects is required

to enroll in an appropriate course or audit a course and pass an examination in that field. Under exceptional circumstances a student may be allowed to repeat the placement examination. The designated courses are:

- Chemistry 451 if the subject is analytical chemistry
- Chemistry 441A and/or 441B if the subject is biochemistry
- Chemistry 321A and/or 322 if the subject is organic chemistry
- Chemistry 371A and/or 371B; or 377A and/or 377B if the subject is physical chemistry

- The placement examinations will be given on Tuesday and Wednesday of the week preceding the first day of instruction. Entering students should correspond with the biochemistry graduate adviser before arrival to arrange to take these examinations. The Graduate Studies Committee evaluates the examinations and recommends appropriate courses to correct any deficiencies in chemistry. The biochemistry graduate adviser and the student's advisory committee meet with the student at this time to prepare a tentative degree program.

#### Advancement to Candidacy

The department recommends advancement to candidacy after the graduate student has:

- Either passed the placement examinations in analytical, biological, organic and physical chemistry or received a grade of C or better in the courses prescribed by the student's advisory committee for correcting the deficiencies. (The student auditing courses to correct deficiencies is expected to file with the graduate adviser and Graduate Studies Committee a statement from the instructor certifying a minimum of C work.)
- Earned at least a 3.0 (B) average in all graduate work completed at this University or transferred to meet degree requirements.
- Obtained approval of a graduate degree program by the graduate adviser, the department chairman (in consultation with the Graduate Studies Committee) and the Dean of Graduate Studies.

The criteria above should be met by the beginning of the third semester of graduate study. Deficient students may continue at the discretion of the Department Graduate Studies Committee.

#### Requirements for the Master of Science

- Advancement to candidacy.
- The completion of all requirements in the graduate degree program as established by the student's advisory committee. The graduate program must include a minimum of 30 units with:
  - A minimum of nine units in chemistry lecture courses in the 500 series (excluding Chemistry 595).
  - Two units of Chemistry 595.
  - A maximum of 10 units of chemistry in the 600 series (one unit of 660, three units of 697 and six units of 698).
  - Chemistry 371A and 371B or 377A and 377B; 443 and 451 taken either prior to or during the course of this program. Credit earned in Chemistry 371A, 371B, 377A, 377B and all approved 400 level courses, must be applied towards the M.S. in biochemistry when it is a part of the graduate program.

Changes in the above pattern of course requirements may be made only at the discretion of the student's advisory committee and the graduate adviser.

- Completion of an acceptable thesis.

## Lower Division

**100. Chemistry and Today's World (4) F, S Faculty**

Introduction to the basic principles of chemistry and a consideration of the benefits and problems arising from applications of chemistry. Discussions of foods and food additives, drugs, plastics and other materials of everyday life, fuel sources, the atmosphere, and fresh water. Suitable for general education credit. Not open for credit to chemistry majors or students with credit in Chemistry 111A or 200. (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: Two years of high school algebra or equivalent. 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 General and Organic Chemistry (4) F, S Harris, Kalbus, Loesch, Senozan, Stern**

Prerequisite: One year of high school algebra. The first semester of a two-semester sequence (Chemistry 200 and 300) covering general, organic, and biochemistry. Chemistry 200 deals with general chemistry and a portion of organic chemistry. Not open for credit to students with credit in Chemistry 111A. (Lecture 3 hours, laboratory 3 hours.)

**251. Quantitative Analysis (4) F, S Faculty**

Prerequisite: Chemistry 111B. Introduction to the techniques and theory of gravimetric and volumetric analysis, spectrophotometry, potentiometry and chromatography. This course meets the requirements of most medical and dental schools. (Lecture 2 hours, laboratory 6 hours.)

## Upper Division

**300. Basic Concepts of Organic and Biochemistry (4) F, S Berry, Cohlberg, Dunne, Perlgut, Wynston**

Prerequisite: Chemistry 200 with a grade of C or better and satisfactory performance on a qualifying examination. The second semester of a two-semester sequence (Chemistry 200 and 300). Study of organic chemistry; structures, metabolic reactions and functions of the major classes of biochemical compounds and the mechanisms of vitamin and enzyme action, kinetics, bioenergetics, and biochemical genetics. Does not meet the requirements of medical or dental schools. (Lecture 3 hours, laboratory 3 hours.)

**321A. Organic Chemistry (5) F, S Berryhill, Goldish, Harris, Henderson, Jensen, Loesch, Maricich, Marsi, Mayfield**

Prerequisite: Chemistry 111B with a grade of C or better. Chemistry 251 is 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; spectroscopy including UV, IR, NMR and mass spectroscopy. (Lecture 3 hours, laboratory and quiz section 6 hours.)

**321B. Organic Chemistry (5) F, S Berryhill, Goldish, Harris, Henderson, Jensen, Loesch, Maricich, Marsi, Mayfield**

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 Berryhill, Goldish, Harris, Henderson, Jensen, Loesch, Maricich, Marsi, Mayfield**

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 Berryhill, Goldish, Harris, Henderson, Jensen, Loesch, Maricich, Marsi, Mayfield**

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. (Laboratory 6 hours.)

**327. Organic Chemistry (3) F, S Berryhill, Goldish, Harris, Henderson, Jensen, Loesch, Maricich, Marsi, Mayfield**

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.)

**327L. Laboratory in Organic Chemistry (1) F, S Berryhill, Goldish, Harris, Henderson, Jensen, Loesch, Maricich, Marsi, Mayfield**

Corequisite: Chemistry 327 or consent of instructor. This laboratory augments Chemistry 327 by providing experience with organic chemical techniques including chromatography, extraction and distillation. In addition some synthetic and qualitative laboratory work is done with typical organic compounds and organic compounds of biological interest. Does not meet the requirements for dental or medical schools. Not open to students with credit in Chemistry 321A, B or 328. (Laboratory 3 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) 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. (Lecture 3 hours.)



**372. Physical Chemistry (3) F Baine, Becker, Devore, Senozan, Stern**

Prerequisite: Chemistry 371A with a grade of C or better. Selected topics in physical chemistry of particular interest to chemical engineers. Equilibrium and steady state thermodynamics of multi-component systems including combustion gases, strong electrolytes, fused salts and alloys, transport phenomena, chemical kinetics and topics in atmospheric chemistry. (Lecture 3 hours.)

**373. Physical Chemistry Laboratory (3) F, S Baine, Devore, Senozan, Stern**

Prerequisites: Chemistry 251, 371A, or 377A and Chemistry 371B or 377B (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.)

**377A. Fundamentals of Physical Chemistry (3) F Baine, Becker, Devore, Hunt, Senozan, Stern**

Prerequisites: Chemistry 111B with a grade of C or better; Mathematics 123 (may be taken concurrently); Physics 100B or 152. The first semester of a two-semester sequence. Principles of physical chemistry with emphasis on thermodynamics and chemical kinetics. Examples from biological and environmental sciences will be used to illustrate the principles. (Lecture 3 hours.)

**377B. Fundamentals of Physical Chemistry (3) S Baine, Becker, Devore, Hunt, Senozan, Stern**

Prerequisite: Chemistry 377A or 371A, each with a grade of C or better. The second semester of a two-semester sequence. Principles of physical chemistry with emphasis on molecular structure and spectroscopy. (Lecture 3 hours.)

**385. Computer Methods in Chemistry (2) 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 205.

**\*421. Physical Organic Chemistry (3) F Berryhill, Goldish, Harris, Henderson, Jensen, Loeschen, Maricich, Marsi, Mayfield**

Prerequisites: Chemistry 321 or 322 with a grade of C or better or pass the organic entrance exam and 371B or 377B (may be taken concurrently). Theoretical interpretation 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. (Lecture 3 hours.)

**\*422. Identification of Organic Compounds (3) S Berryhill, Goldish, Harris, Henderson, Jensen, Loeschen, Maricich, Marsi, Mayfield**

Prerequisites: Chemistry 251, 321B, 371A (or 377A), 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, Sharp**

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, 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, 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 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 and either 448M or 441A and 441B (the latter may be taken concurrently). 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, 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. (Lecture 3 hours.)

**448M. Fundamentals of Biological Chemistry for Medical Microbiologists (3) F, S Berry, Dunne, Cohlberg, Perlgut, Wynston**

Prerequisite: Chemistry 327 with a grade of C or better. Similar to Chemistry 448 with special emphasis on topics related to clinical chemistry. Open to medical microbiology majors only; other students admitted only by consent of instructor. (Lecture 3 hours.)

**449. Nutritional Biochemistry Laboratory (3) F, S Dunne, Perlgut**

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, Lieu, McGown**

Prerequisites: Chemistry 251 and 371A or 377A, 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. May be repeated once for credit, but not more than one unit is applicable towards the B.S. degree in Chemistry. (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 physicochemical problems.

**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**

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) S Faculty**

Prerequisite: Chemistry 421 or consent of instructor. Areas of current interest in organic chemistry. Normally two of the following topics are treated. May be repeated with different topics to a maximum of six units.

*Natural Products:* Structure, biological activity, biogenesis and synthesis of selected naturally occurring compounds.

*Organic Synthesis:* Modern synthetic reactions as demonstrated in recent synthesis of molecules of biological or theoretical interest.

*Organophosphorus Chemistry:* Nomenclature, synthesis and reactivity of phosphorus-containing organic compounds. Emphasis is placed upon mechanisms of reactions of such compounds. Some discussion of the biochemistry of organophosphorus compounds will be given.

*Photochemistry:* The effects of light absorption by organic compounds. Involves a study of the types and mechanisms of reactions, energy transfer, fluorescence and phosphorescence.

*Kinetics and Mechanism:* A survey of methods of elucidation of reaction mechanisms. Theory and application of kinetics, isotope effects, acidity functions. Catalysis and linear free energy relationships may be included as related to molecular rearrangements, hydrolyses, hydration reactions and intramolecular catalysis.

*Bioorganic Mechanisms:* The application of mechanistic organic chemistry to the mechanism of action of biological compounds. Emphasis may center on drug action or enzyme catalysis.

*Stereochemistry:* Molecular configurations, conformations and stereochemical effects in the organic reactions of carbon and heteroatom compounds.

*Reactive Intermediates:* Organic chemistry of reactive intermediates such as carbenes, nitrenes and free radicals.

**531. Advances in Inorganic Chemistry (3) S, alternate years Hunt, Po, Tharp**

Prerequisite: Chemistry 431 or consent of instructor. Current topics and advances in inorganic chemistry. May be repeated with different topics to a maximum of six units.

*Metallo-organic Chemistry:* Complexes of transition metals in low oxidation states, emphasizing structure of complexes and bonding, reaction types and homogeneous catalysis.

*Physical Methods of Inorganic Chemistry:* A brief survey of the basic theoretical principles of the quantum mechanics of bonding, followed by an intensive discussion of modern physical techniques. Application of most physical methods to selected inorganic compounds will be discussed.

*Mechanisms of Inorganic Reactions:* Inorganic reactions in aqueous solution, emphasizing the substitution mechanisms of octahedral complexes, types of electron-transfer reactions of complexes, application of Marcus-Hush theory and catalysis by transition metal complexes.

*Boranes and Boron Chemistry:* Synthesis, structure, reactivity and new bonding concepts in boranes and boron compounds.

**541. Biochemistry of Macromolecules (3) F, alternate years Wynston**

Prerequisite: Chemistry 441B or consent of instructor. Studies of the chemical, physical and biological structures and functions of proteins, nucleic acids and other biopolymers.

**542. Special Topics in Biochemistry (3) S, alternate years Faculty**

Prerequisite: Chemistry 441B or consent of instructor. A detailed intensive discussion of a limited aspect of biochemistry with reference to current literature. Course content will vary from year to year. May be repeated for credit with consent of instructor.

**544. Physical Biochemistry (3) F, alternate years Cohlberg**

Prerequisites: Either Chemistry 371B, 372 or 377B, or consent of instructor and Chemistry 441B. Physical chemistry aspects of protein and nucleic acid chemistry and related analytical methods.

**545. Enzymology (3) S, alternate years Dunne**

Prerequisites: Chemistry 371A and 441B, or consent of instructor. Detailed study of the mechanisms and kinetics of enzyme-catalyzed reactions and mechanisms of enzyme regulation.

**546. Clinical Biochemistry (3) F or S Berry**

Prerequisite: Chemistry 441B. Chemistry and methodology of clinically important analyses of biological fluids.

**552. Special Topics in Analytical Chemistry (3) F, alternate years Kalbus, Lieu, McGown**

Prerequisite: Chemistry 451 or consent of instructor. Selected topics including electrochemical measurements, chromatographic techniques, spectroscopic techniques (molecular and atomic absorption and emission), radiochemical analysis and basic electronic components of instrumentation. Emphasis will be placed on an in-depth understanding of the chemical principles involved, along with the utility and limitations of each method. Other topics include trace analysis by electrochemical methods and instrumental analysis of water and air pollution control.

**571. Advanced Thermodynamics (3) S Faculty**

Prerequisite: Chemistry 471. Continuation of Chemistry 471 to include statistical and solution thermodynamics.

**572. Advanced Physical Chemistry (3) S Faculty**

Prerequisite: Chemistry 371B or consent of instructor. Special topics in physical chemistry. May be repeated with different topics to a maximum of six units.

*Group Theory:* Group theory and its application in chemistry. Topics covered will include hybridization, molecular orbital theory, crystal and ligand field theories and molecular vibrations.

**Spectroscopy and Molecular Structure:** The use of spectroscopic methods to elucidate molecular structure. Topics covered will include microwave, infrared, visible, ultraviolet, Raman, nuclear magnetic resonance, electron spin resonance, nuclear quadrupole and Mossbauer spectroscopy.

**Dynamics of Chemical Reactions:** Review of phenomenological kinetics equations; methods of elucidating complex photochemical and thermal gas phase reaction mechanisms; theoretical approaches to physicochemical reactions including the RRKM method and quantum mechanical scattering; applications of kinetics to the various fields of chemistry.

**595A. Colloquium in Biochemistry (1) F,S Faculty**

**595B. Colloquium in Organic Chemistry (1) F,S Faculty**

**595C. Colloquium in Analytical, Physical and Inorganic Chemistry (1) F,S Faculty**

Prerequisite: Graduate standing or consent of instructor. Discussion of advances in chemistry as reported in recent literature. Designed to give experience in library use, organization and presentation and critical evaluation of the chemical literature. May be repeated for credit, but not more than a total of three units may be earned in any combination of 595 courses.

**660. Seminar in Chemistry (1) F,S Faculty**

Weekly meetings for presentation and discussion of advanced work in special fields including original research by faculty and graduate students.

**695. Directed Reading (1) F,S Faculty**

Survey of the information in chemical literature on a current research topic, under the direction of a faculty member. Preparation of a written report based on this reading.

**697. Directed Research (1-3) F,S Faculty**

Prerequisite: Arrangement with instructor. Laboratory work supervised on an individual basis. May be repeated for credit.

**698. Research and Thesis (1-6) F,S Faculty**

Prerequisite: Arrangement with instructor. Chemical laboratory investigations to be terminated by a thesis.

## Civil Engineering

### School of Engineering

**Department Chair:** Dr. M. Gamal Mostafa.

**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, Rao.

**Undergraduate Adviser:** Dr. H.L. Chu.

**Graduate Adviser:** Dr. Robert L. Alexander.

**Graduate Committee:** Alexander, Bakker, Chu, Mostafa, Yen, 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, geotechnical engineering, water resources 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, surveying and photogrammetry, urban and environmental engineering.

The Department of Civil Engineering offers graduate study programs leading to the degrees of master of science in civil engineering (M.S.C.E.) and the advanced degree of civil engineer (C.E.). These programs provide opportunities for graduate students to develop as civil engineers capable of competent research, design, and application through integrated curricula of engineering and science while permitting a concentration in the student's area of interest.

Areas of specialization include: environmental engineering, water resources engineering, geotechnical engineering, structural engineering, transportation and urban engineering. Additional information concerning the programs, special facilities, laboratories and research possibilities is contained in the Civil Engineering Department brochures.

Some graduate laboratory and teaching assistantships are available to qualified graduate students. Applications should be sent to the department chair.

### 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:

Mihran S. Agbabian, Agbabian Associates, El Segundo  
 Sigmund A. Burke, Fluor Engineers & Constructors, Inc., Irvine  
 Roy G. Johnston, Brandow & Associates, Los Angeles  
 Dennis D. Lambert, Goffman and McCormick, Inc., Laguna Hills  
 Fred D. MacMurdo, The Irvine Co., Newport Beach  
 John Maulding, Willdan Associates, Anaheim  
 Alfonso Robles, Jr., Department of the Army, Corps of Engineers  
 Dorothy M. Weisz, Environmental Management Agency, Orange County  
 James Williams, Environmental Management Agency, Orange County  
 Robert S. Wright, Woodward-Clyde Consultants, Orange  
 President, CSULB Student Chapter American Society of Civil Engineers  
 President, Chi Epsilon, Civil Engineering Honor Society

### Bachelor of Science Degree in Civil Engineering (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. 305, 306, 335, 345, 346, 359, 364, 406, 426, 437, 458, 459, 481; 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 a minimum of 132 units including no fewer than 12 units of upper division 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.

### Certificate in Solid Waste Management

**Director:** Mr. Willard H. Reed

The 24-unit Certificate Program in Solid Waste Management is designed to provide the interested student or qualified practitioner with the very latest in education and training in the field management of solid waste as well as related resource and energy recovery.

The program is conducted in cooperation with local engineering consulting firms and government agencies and requires an internship of three units.

The 24-unit certificate program may be taken (1) by a baccalaureate candidate as a part of the undergraduate program, (2) by a graduate as a matriculated student, (3) by a graduate as a nonmatriculated student through the concurrent enrollment process of continuing education.

Regardless of how the program is taken, a grade of C or better must be obtained in all courses applying to the certificate. Courses taken on CR/NCR or audit basis will not apply to the certificate. Graduate students taking courses in this program are reminded that grades received will be included in calculations of the M.S. requirement.

#### Requirements for the Certificate:

1. Completion of a baccalaureate degree which may be awarded concurrently.
2. Satisfactory completion of 24 units which must include 15 units of requirements: Civil Engineering 364, 408, 460, 461, 463; a minimum of nine units selected from the following: Civil Engineering/Mechanical Engineering

405 (when offered in the Solid Waste Management field), CE 406, 407, 465, 466 and 468.

### Master of Science Degree in Civil Engineering (code 6-4325)

#### Prerequisites

1. A bachelor's degree in an accredited curriculum in civil engineering, or:
2. A bachelor's degree in engineering, a natural science or other appropriate discipline with the requirement that essential undergraduate prerequisites in civil engineering be satisfied.
3. Graduate students must consult with the graduate adviser for information concerning procedures and requirements for appropriate approval of their courses of study prior to enrolling in their graduate programs.

#### Advancement to Candidacy

1. Removal of all undergraduate deficiencies as determined by the Department Graduate Study Committee.
2. Students may, at the discretion of the Department Graduate Study Committee, be required to take examinations in their chosen areas.

#### Requirements for the Master of Science

1. Completion of a minimum of 30 units beyond the bachelor's degree in upper division and graduate courses as follows:
  - a. A minimum of 24 units in engineering, probability and statistics and mathematics courses with 18 units of 500 and/or 600 level courses in civil engineering. Within these 18 units a student may include six units of C.E. 698, Thesis, or three units of C.E. 697, Directed Studies. No student may include more than three units of C.E. 602 within these 18 units.
    - i. ore than three units of C.E. 602 within these 18 units.
  - b. Six units of electives selected from approved upper division or graduate courses from appropriate areas.
  - c. Fulfill the requirements in option 1, 2 or 3.
    - i. Option 1 — Write and present orally a thesis to be approved by the thesis committee.
    - ii. Option 2 — Write and present orally an approved paper on a directed study and pass a comprehensive examination on related course work.
    - iii. Option 3 — Pass a comprehensive examination on course work in her/his graduate program.

### Civil Engineer Degree (code 7-4324)

The program leading to the civil engineer degree offers the qualified student professionally oriented courses with greater concentration in civil engineering than is required by the master of science in civil engineering. This program encourages appropriate advanced studies in other disciplines of the University.

#### Prerequisites

1. A master of science degree in civil engineering from an accredited institution with a minimum GPA of 3.5; or
2. A bachelor of science degree in civil engineering from an accredited institution with a minimum GPA of 3.0; or
3. A bachelor of science degree in engineering, mathematics, physical sciences or other appropriate disciplines from an accredited institution with a minimum GPA of 3.0 with the requirement that essential undergraduate prerequisites in civil engineering will be satisfied prior to commencing the student's civil engineering degree program.



4. The graduate student must consult with the graduate adviser and Civil Engineering Department graduate brochure for information concerning departmental procedures and requirements and for appropriate approvals of the course of study prior to enrolling in courses in the student's graduate program.

Exceptional cases not meeting the above minimum GPA may be considered by the Department Graduate Studies Committee.

#### Advancement to Candidacy

1. A Department Graduate Study Committee, consisting of the graduate student's adviser, and at least two other faculty members, will be responsible for the formulation and supervision of each individual graduate student's program.
2. The committee shall determine candidacy admission requirements as to removal of undergraduate and/or graduate prerequisite deficiencies.
3. Prior to determining advancement requirements the committee may, at its discretion, require the student to take an examination in the chosen area.

#### Requirements for the Civil Engineer Degree

1. Completion of a minimum of 60 units beyond the bachelor's degree in upper division and graduate courses, approved by the student's Department Graduate Study Committee including:
  - a. A minimum of 36 units of 500 and 600 level civil engineering courses including a thesis of nine units to be written and presented orally.
  - b. Twenty-four units of 400, 500 and 600 level approved electives.
2. No more than 30 units completed before advancement to candidacy may be used in completing the requirements for the C.E. degree.

#### Lower Division

- 101. Introduction to Engineering and Engineering Design (1) F, S Faculty**  
Elementary application of engineering methods to case histories. (Lecture-discussion 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 I (2) F, S Chelapati, 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

- 305. Technical Communications (3) F, S Alexander, Neidengard**  
Prerequisite: English composition. Various oral, written, symbolic and numerical methods of recording, processing and transmitting technical information. (Lecture-problems 3 hours.)
- 306. Computer Programming and Civil Engineering Applications II (2) F, S Chelapati, Ying**  
Prerequisite: C.E. 206. Application of numerical methods and computer programming to the solution of civil engineering problems. (Lecture-problems 1 hour, laboratory 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 (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 Foundations 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: C.E. 200. Experimentation and study of Portland cement concrete, mortar, masonry units and grout. (Laboratory 3 hours.)
- 359. Structural Analysis I (2) F, S Faculty**  
Prerequisite: M.E. 373. Analysis of determinate structures including trusses, beams, and frames, conjugate beam, virtual work, energy methods, approximate methods, and influence. (Lecture-problems 2 hours.)
- 364. Environmental Engineering (3) F, S Bakker**  
Prerequisite or corequisite: C.E. 335. Study, simulations and design of the environmental elements of a community. General planning and environmental impact analysis. Standard laboratory methods of water and wastewater analysis. (Lecture 2 hours, laboratory 3 hours.)
- \*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) F,S 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. Lecture-problems 3 hours.)

**\*406. Engineering Economy and Administration (3) F, S Al-Chalabi, Eshett, Rao**

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) S Ying**

Prerequisite: C.E. 206 or consent of instructor. Numerical analysis and computer methods applied to various branches including special problem oriented languages. (Lecture-problems 3 hours.)

**\*420. Higher Surveying (3) F Faculty**

Prerequisite: C.E. 225. Advanced techniques in surveying. (Lecture-problems 2 hours, field work 3 hours.)

**\*426. Transportation Engineering (3) F,S Alexander**

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 Faculty**

Prerequisite: C.E. 345. Design problems in highway engineering. Design project. (Lecture-problems 3 hours.)

**\*428. Engineering Photogrammetry (3) S 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.)

**\*436. Water Resources Engineering (3) S Bakker, Chu**

Prerequisites: C.E. 335, 406, or consent of instructor. Planning development and management of water resource systems. (Lecture-problems 3 hours.)

**\*437. Open Channel Hydraulics (3) F,S Chu, 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,S 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.)

**\*455. Structural Steel Design (3) F, S Chelapati, 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 Faculty**

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 (3) F,S Faculty**

Prerequisite: C.E. 359. Solution of indeterminate truss and frame structures using moment distribution and slope deflection methods. Introduction to matrix methods. Computer solutions. Energy theorems and virtual work principles. (Lecture-problems 3 hours.)

**\*459. Reinforced Concrete Design I (3) F,S Chelapati, Rao, Ying**

Prerequisite: C.E. 200 and 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) 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.)

**\*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.)

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Prerequisite: Senior standing or consent of instructor. Engineering management principles and economic analysis with emphasis on time value of money. (Lecture-problems 3 hours.)

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Prerequisite or co-requisite: C.E. 464 or consent of instructor. Administration, coordination and planning of city engineering departments. (Lecture-problems 3 hours.)

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Prerequisite: Senior standing in civil engineering. Assigned topics in technical literature or laboratory projects and reports on same.

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Prerequisite: C.E. 225. Advanced techniques in surveying. (Lecture-problems 2 hours, field work 3 hours.)

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Prerequisites: C.E. 200, 305 or consent of instructor. Theory, design and operation of various modes of transportation. (Lecture-problems 3 hours.)

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Prerequisite: C.E. 345. Design problems in highway engineering. Design project (Lecture-problems 3 hours.)

**\*428. Engineering Photogrammetry (3) S 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.)

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Prerequisite: C.E. 426 or consent of instructor. Traffic engineering as related to studies, planning, operation and administration. (Lecture-problems 3 hours.)

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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.)

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Prerequisites: C.E. 335, 406, or consent of instructor. Planning development and management of water resource systems. (Lecture-problems 3 hours.)

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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.)

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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.)

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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.)

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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.)

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Prerequisite: C.E. 359. Detailed design of structural steel components with typical codes and specifications. (Lecture-problems 3 hours.)

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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.)

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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 (3) F,S Faculty**

Prerequisite: C.E. 359. Solution of indeterminate truss and frame structures using moment distribution and slope deflection methods. Introduction to matrix methods. Computer solutions. Energy theorems and virtual work principles. (Lecture-problems 3 hours.)

**\*459. Reinforced Concrete Design I (3) F,S Chelapati, Rao, Ying**

Prerequisite: C.E. 200 and 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) 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.)



**\*461. Solid Waste Engineering Principles (3) F,S Faculty**

Prerequisite: Upper division standing in engineering or consent of instructor. Overview of management practices, technology, regulations, characteristics of waste, disposal options, resource recovery systems, recycling, hazardous wastes and waste reduction as related to municipal solid waste. Laboratory demonstrations, field trips, group projects. (Lecture-problems 3 hours.)

**\*463. Land Environment Engineering (3) F Bakker**

Prerequisite or co-requisite: senior standing or consent of instructor. Engineering aspects of optimal land utilization including modification of current land use practices, reclamation and reassignment. Evaluation of energy development practices and the effects on the land environment. (Lecture-problems 3 hours.)

**\*465. Water Environment Engineering (3) S Faculty**

Prerequisite or co-requisite: C.E. 364 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) S Faculty**

Prerequisites: C.E. 364 and C.E. 437. Parameters and design of (1) water distribution systems, (2) waste water collection systems, (3) storm water collection and transportation systems. (Lecture-problems 3 hours.)

**\*468. Marine Pollution Control (3) F,S Faculty**

Prerequisite: C.E. 364 or Biology 353. Marine and domestic pollution of coastal and estuarine waters. (Lecture-problems 3 hours.)

**\*470. Engineering Contracts and Specifications (3) F Faculty**

Prerequisite: C.E. 200. 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.)

**\*473. Project Management (3) S Faculty**

Prerequisites: C.E. 305, 406, or consent of instructor. Theory and application of logic and current techniques in the planning, scheduling and managing of engineering projects. Techniques of construction. (Lecture-problems 3 hours.)

**481. Professional Practice in Civil Engineering (1) F,S Neidengard**

Prerequisite: Senior standing. Topics related to practice of civil engineering profession. Professional society meetings and readings. (Lecture-problems 1 hour.)

**\*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) F Plecnik**

Prerequisites or co-requisites: C.E. 455, 459. Laboratory examination of structural concepts. (Laboratory 3 hours.)

**\*492. Reinforced Concrete Design II (3) F Faculty**

Prerequisites: C.E. 458, 459. Complete integrated design of structural systems in concrete. Code provisions. (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) F Plecnik**

Prerequisite: C.E. 494 or consent of instructor. Theory of finite element methods. Discretization of continuum, element stiffness matrices and direct stiffness formulation. Application to frame, plane stress and strain, plate and shell problems using SAP. (Lecture-problems 3 hours.)

**504. Advanced Topics in Civil Engineering (3) F,S Faculty**

Prerequisite: Consent of instructor. Selected topics from the most recent developments in civil engineering. Course content will vary from year to year and the specific topic will be recorded on the student's transcript. May be repeated once for credit. No more than six units of C.E. 405 and/or C.E. 504 may be counted for the master's degree. (Lecture-problems 3 hours.)

**506. Engineering Economy for Complex Systems (3) F Rao**

Prerequisite: C.E. 406 or consent of instructor. Principles and techniques useful to engineers in formulating rational requests for the allocation of capital and other resources to complex programs. Model formulation, systems analysis and design. Applications to public engineering systems. Risk, uncertainty, decision theory and intangibles will be emphasized. (Lecture-problems 3 hours.)

**521. Seaport Planning and Design (3) F Neidengard**

Prerequisite: C.E. 426 or consent of instructor. Planning and design of seaports and facilities as access system, support transportation, use analysis and ocean water transport crafts. Site selection and comprehensive planning. (Lecture-problems 3 hours.)

**522. Transportation Planning (3) F Faculty**

Prerequisite: C.E. 426 or consent of instructor. Planning of fixed facilities for various modes of transportation in urban areas. Engineering administration and integration of transportation systems. (Lecture-problems 3 hours.)

**525. Airport Planning and Design (3) S Neidengard**

Prerequisite: C.E. 426 or consent of instructor. Planning and design of airports and facilities as access systems and terminals, site selection and geometries of airfields. (Lecture-problems 3 hours.)

**526. Pavement Engineering (3) S Alexander**

Corequisite: C.E. 427 or consent of instructor. Aggregate-binder systems. Modulus dependency functions. Theory and design of pavement structures. (Lecture-problems 3 hours.)

**530. Mathematical Models in Hydraulic Engineering (3) F Chu**

Prerequisite: C.E. 437 or consent of instructor. Numerical techniques for solving hydraulic problems in water supply, waste water disposal and storm drainage systems. Prediction of important parameters by mathematical modeling on problems encountered in artificial channels, rivers, estuaries and marine environments. (Lecture-problems 3 hours.)

**531. Groundwater and Seepage (3) S Eshett**

Prerequisites: C.E. 335, 345 or consent of instructor. Theory and application of groundwater flow and seepage through earth structures. (Lecture-problems 3 hours.)

**532. Sediment Transportation (3) F Mostafa**

Prerequisite: C.E. 437. Phenomena of sediment transportation related to streams and marine environments. (Lecture-problems 3 hours.)

**534. Hydraulic Models (2) S Mostafa**

Prerequisite: C.E. 336, 437 or consent of instructor. Hydraulic measurement and principles of hydraulic similitude as applied to stream, estuarine and coastal environments. (Lecture-problems 2 hours.)

**538. Hydraulic Engineering Design II (3) F Mostafa**

Prerequisites: C.E. 437, 438 or consent of instructor. Design of water supply networks, hydraulic transitions, controls and structures. Hydraulic power conversion. River engineering. Water resources systems. (Lecture-problems 3 hours.)

**539. Coastal Engineering (3) S Chu**

Prerequisite: C.E. 439 or consent of instructor. Wave mechanics, tides, surge, wave refraction, diffraction and reflection, application to design of coastal and offshore structures and to the study of beach erosion problems. (Lecture-problems 3 hours.)

**545. Rock Mechanics in Engineering Practice (3) F Yen**

Prerequisites: C.E. 345, 346. Principles of rock mechanics with emphasis on engineering practices for problems of slopes, foundations and tunnels. Same course as Geology 545. (Lecture-problems 3 hours.)

**546. Theory and Design of Foundation Structures (3) F Al-Chalabi**

Prerequisite: C.E. 345. Foundation, explorations, stress and deformation relationships and design of various footings, piles, piers and caissons. Analysis of lateral loads and design of retaining structures, machinery foundations and foundation dewatering. (Lecture-problems 3 hours.)

**547. Soil Dynamics (3) S Faculty**

Prerequisites: C.E. 345, 401 or consent of instructor. Theories and field behaviors of dynamically loaded foundation systems and soil responses with emphasis on engineering application. (Lecture-problems 3 hours.)

**548. Geotechnical Engineering (3) S Yen**

Prerequisite: C.E. 345 or consent of instructor. Stress-strain time relationship of soils. Theory and methods of analysis with special emphasis on the applications and limitations in soil engineering. (Lecture-problems 3 hours.)

**549. Advanced Soil Mechanics Techniques (3) F Yen**

Prerequisite: C.E. 548 or consent of instructor. Current theories on soil mechanics topics and advanced testing techniques. (Lecture-problems 2 hours, laboratory 3 hours.)

**550. Behavior and Design of Concrete Structures (3) F Rao**

Prerequisite: C.E. 459. Behavior of plain, reinforced and partially prestressed concrete members and structures, theories of composite action, structural safety, code provisions and applications to advanced design of concrete structures. (Lecture-problems 3 hours.)

**551. Prestressed Concrete (3) S Rao**

Prerequisite: C.E. 459. Principles of prestressed concrete, materials used, applications to structural design, review of existing specifications. (Lecture-problems 3 hours.)

**552. Theory of Plates and Shells (3) F Ying**

Prerequisite: Completion of C.E. Graduate Math Requirement. Review of theory of elasticity; formulation of general equation of bending of thin elastic plates; methods of obtaining exact and approximate solutions; membrane and bending theories of shells with emphasis on cylindrical shells and shells of revolution. (Lecture-problems 3 hours.)

**553. Behavior and Design of Steel Structures (3) S Chelapati, Plecnik**

Prerequisite: C.E. 455. Study of torsion, unsymmetrical bending, stability. Plastic design, code provisions and commentary. Design of complete structural systems in steel. (Lecture-problems 3 hours.)

**555. Seismic Design (3) S Chelapati**

Prerequisite: C.E. 558 or consent of instructor. Characteristics of earthquakes and seismicity response spectra, modal methods of analysis, practical examples of elastic and inelastic response of structures to earthquake motions. Review of codes and laboratory demonstrations. (Lecture-problems 3 hours.)

**556. Advanced Structural Analysis I (3) F Chelapati**

Prerequisite: C.E. 458 or consent of instructor. Numerical methods for determining forces, moments and deflections in beams and frames. Applications include statically indeterminate structures, beams on elastic foundations, stability, beam columns, nonlinearity and vibrations. Introduction to wind engineering: basic meteorology required to determine causes of wind phenomena, determination of design wind forces, review of current code practices and design procedures.

**557. Advanced Structural Analysis II (3) S Ying**

Prerequisite: C.E. 458 or consent of instructor. Virtual forces and displacements, strain energy and complementary energy. Force and displacement matrix methods. Computer applications to planar and space frames, trusses, floor beams and shear wall systems. (Lecture-problems 3 hours.)

**558. Dynamics of Structures (3) F Zagustin**

Prerequisite: C.E. 455 or consent of instructor. Response of structures and structural components having one or many degrees of freedom. Damping and inelastic action; earthquake and nuclear blasts, dynamic resistance of structural elements and structures, elastic and inelastic response of structures to earthquake force and blasts. (Lecture-problems 3 hours.)

**559. Elastic-Plastic Instabilities (3) S Zagustin**

Prerequisite: C.E. 557. Instability of structural elements of static and dynamic loadings. Lateral and torsional buckling of bars, frames, plates and shells. (Lecture-problems 3 hours.)

**560. Environmental Engineering Laboratory II (3) F Bakker**

Prerequisites or corequisites: C.E. 364 and 465 or consent of instructor. Sensing, sampling and laboratory analysis of the physical, chemical, biological and radiological properties of waters, waste waters and air. (Lecture-problems 2 hours, laboratory 3 hours.)

**562. Water Treatment Plant Design (3) F Faculty**

Prerequisite: C.E. 465 or consent of instructor. Rational design of a municipal water treatment plant using physical-chemical processes. (Lecture-problems 3 hours.)

**563. Wastewater Treatment Plant Design (3) S Bakker**

Prerequisite: C.E. 465 or consent of instructor. Rational design of a municipal secondary wastewater treatment plant. (Lecture-problems 3 hours.)

**564. Public Health Engineering (3) F Faculty**

Prerequisite: C.E. 364 or consent of instructor. Engineering aspects of problems, methods and administration of individual, industrial, institutional, municipal, state, national and international sanitation, health and safety. (Lecture-problems 3 hours.)

**565. Environmental Waste Engineering (3) S Bakker**

Prerequisites: C.E. 465 and 560 or consent of instructor. Nature, treatment and disposal of industrial wastes and solid domestic wastes. (Lecture-problems 3 hours.)

**602. Seminar in Civil Engineering (3) F,S Faculty**

Prerequisite: Consent of instructor. Presentation of research in special fields: structures, transportation, environmental, urban, geotechnical and water resources engineering. (May be repeated once for credit.)

**696. Research Methods (1) F,S Alexander**

Bibliographical and library techniques and resources. Preparation and presentation of theses and directed studies technical papers.

**697. Directed Studies (1-3) F,S Faculty**

Prerequisite: Admission to candidacy for an M.S. degree. Corequisite: C.E. 696 or written consent of directed studies adviser. Theoretical and experimental problems in civil engineering requiring intensive analysis.

**698. Thesis (2-6) F,S Faculty**

Prerequisite: Admission to candidacy for degree of master of science in civil engineering. Corequisite: C.E. 696 or written consent of faculty adviser. Planning, preparation and completion of a thesis and/or project in the field of civil engineering.

**699. Thesis (3-9) F,S Faculty**

Prerequisite: Admission to candidacy for degree of Civil Engineer. Corequisite: C.E. 696 or written consent of faculty adviser. Planning, preparation and completion of a thesis in the field of civil engineering practice.

# Communicative Disorders

## School of Humanities

**Department Chair:** Dr. Virginia Warren.

**Professors:** Cooper, Ryan, Yates.

**Associate Professors:** Beattie, Craven, Moore, Warren.

**Undergraduate Adviser:** Dr. Joann Yates.

**Graduate Adviser:** Dr. Randall Beattie.

The Communicative Disorders Department provides specialized course work for students planning careers in speech-language 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.

Students seeking special education credentials may obtain specific credential objectives while completing the master's degree. Students in allied health fields and linguistic sciences will find courses to implement their regular majors.

The department maintains a language, speech and hearing clinic to serve as a clinical and research laboratory on campus for both graduate and undergraduate students. This facility is supplemented by an off-campus branch clinic plus many nearby hospitals, rehabilitation agencies and nonprofit language/speech/hearing clinics.

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.

The Department of Communicative Disorders offers graduate study leading to the master of arts degree in communicative disorders with options in audiology and speech pathology. Students may focus their course work to meet the academic and clinic practicum requirements for licensure by the State of California and for the Certificate of Clinical Competence in Audiology, and/or Speech Pathology from the American Speech and Hearing Association.

Requirements for (1) the Clinical-Rehabilitative Services-Language, Speech and Hearing Specialist, (2) the Clinical-Rehabilitative Services-Audiologist, (3) the Clinical Rehabilitative Services-Language, Speech and Hearing Specialist with Special Class Authorization to Teach Severe Language Disordered Children, and (4) the Specialist in Special Education-Communication Handicapped may be completed in conjunction with the master's degree.

Students who are enrolled or planning to enroll in the graduate program may apply for the following financial assistance: foundation fellowships, U.S. Office of Education traineeships, clinic assistantships and clinic traineeships.



Students receiving any of these grants-in-aid are expected to devote a specified number of hours each week to clinical activities. Applications may be obtained at the department office or by writing to the department chair. Applications, with supportive materials, must be submitted by November 1 for the spring semester and April 1 for the fall semester.

#### **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:* Communicative Disorders 260, 261, 271; Psychology 210.

*Upper Division:* Communicative Disorders 330, 363, 373, 431, 432, 440, 456, 466, 476, 481A-B, 483, 489.

#### **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 severe language disordered must be admitted to the graduate program in speech pathology or audiology.

#### **Clinical-Rehabilitative Services—Language, Speech and Hearing Specialist**

Candidates must

- A. Complete the master's degree in speech pathology.
- B. Complete Educational Psychology 451, Health Science 411, and Educational Psychology 486A (Student Teaching (5) in order to complete 100 contact hours as a Language, Speech and Hearing Specialist trainee in the school setting.)

#### **Clinical-Rehabilitative Services—Audiologist**

Candidates must

- A. Complete the master's degree in audiology.
- B. Complete Educational Psychology 451, Health Science 411, Communicative Disorders 380 and 680 (internship to be completed in the schools in order to complete 100 contact hours as an Audiologist trainee in a public school environment.)

#### **Clinical-Rehabilitative Services — Language, Speech and Hearing Specialist with Special Class Authorization to Teach Language Disordered Children**

Candidates must:

- A. Complete the master's degree in speech pathology.
- B. Complete Educational Psychology 350, 451, 464, Health Science 411, Communicative Disorders 482, Educational Psychology 486A (in order to complete 100 contact hours as a Language, Speech and Hearing Specialist trainee in the school setting), and Educational Psychology 486F (in order to complete 100 contact hours as a teacher of severe language disordered children trainee in a school setting).

#### **Specialist in Special Education—Communication Handicapped**

Candidates must:

- A. Hold a valid teaching credential or complete one through the School of Education.
- B. Complete the following generic special education courses: Educational Psychology 350, 451, 464.
- C. Complete Health Science 411.
- D. Complete the master's degree in speech pathology.
- E. Complete Communicative Disorders 380, Educational Psychology 486A (in order to complete 100 contact hours as a Language, Speech and Hearing Specialist trainee in the schools) and Educational Psychology 486F (in order to complete 100 contact hours as a teacher of severe language disordered children trainee in the schools).

#### **Admission to the Graduate Program**

Enrollment in 500/600 level courses in communicative disorders is restricted to students who have been admitted to the graduate program of the department. Students wishing to be admitted must complete the following procedures:

1. Students must meet the criteria for acceptance by the University as a graduate student.
2. Every student (new or continuing) must apply to the Office of Admissions and Records to obtain admission to the University with graduate standing.
3. Every student then must apply to the Department of Communicative Disorders for admission to the graduate program using the department application form. This form must be filed with the department chair by March 1 for the following fall semester and by October 1 for the following spring semester. The following supportive materials must be filed with the department admission application:
  - a. Change of objective form available at department office (continuing students only).
  - b. Transcripts of all upper division and graduate work completed. These transcripts are in addition to those required by the Office of Admissions and Records.
    - (1) Students must have maintained a GPA of 3.0 or better in the last 60 units attempted prior to date of application.
    - (2) Students must have maintained a GPA of 3.0 or better in the major field and 3.0 or better in all clinical practicum courses attempted.
    - (3) Students approved for admission during the last semester of their senior year must confirm an acceptable grade point average during their final semester to receive unqualified admission to the department graduate program.
  - c. Results of Miller Analogies Test (MAT). Students must achieve an appropriate test level score to merit acceptance into the graduate program.
  - d. Three letters of recommendation from academic personnel or individuals who have knowledge of the applicant's performance in settings requiring close interpersonal relationships in health and education related areas. These recommendations should bear upon the student's potential as a graduate student in communicative disorders.
4. Any deficiencies will be determined by the department graduate committee after consultation with the student and the student's faculty adviser and study of transcript records. This includes demonstration, through a series of tests, of the applicant's abilities in logical thinking and problem solving, writing, reading and speech proficiency.
5. Student will have completed one of the two prerequisites listed in the next section.

#### **Master of Arts Degree with a Major in Communicative Disorders (code 5-6842)**

##### **Prerequisites**

1. A bachelor's degree from an accredited institution with a major in communicative disorders (speech pathology and/or audiology), or:
2. A bachelor's degree from an accredited institution with at least 24 units of upper division work in communicative disorders (speech pathology and/or audiology), including courses comparable to those required of majors in the Department of Communicative Disorders at this University.

**Advancement to Candidacy**

1. Acceptance as an approved major in the department graduate program. See "Admission to Graduate Program."
2. Removal of all undergraduate deficiencies.
3. Earned 3.0 grade point average (a) in graduate work in communicative disorders, (b) in all graduate work completed at this University, (c) in all graduate work transferred to meet degree requirements.
4. Completion of Communicative Disorders 696.
5. Filing of the departmental application for advancement to candidacy. Student must obtain permission of the department graduate committee to write a thesis or to take a comprehensive examination in partial fulfillment of the master's degree program. Forms are available at the department office.
6. Acceptance by the Dean of Graduate Studies of a program of graduate courses approved by the student's department adviser, department graduate committee and the department chair.

**Requirements for the Master of Arts**

Students must elect one of two available options: audiology or speech pathology. For speech pathology 39 units of course work is required: Communicative Disorders 696, 662, 663, 664, 665, 666, 669A, 669B or 669C, 669D, 669F, 669G, 669J, 670 or Educational Psychology 486A and 698 or comprehensive examinations plus a three-unit elective. For audiology 36 units of course work is required: Communicative Disorders 696, 530, 574, 669A or 669B, 674, 675, 679, 680, electives (6 units), 698 or comprehensive examinations plus three units of electives. All students will take a final oral examination which includes a defense of the thesis or written examination.

**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.

**260. Introduction to Communicative Disorders (3) F,S Craven, Moore, Ryan, Yates**

Historical and interpersonal features of human communication disfunction. Survey of major communicative disorders. Role of speech-language pathologist and audiologist in medical, educational, and private practice settings. Not open to students with credit in Communicative Disorders 366.

**261. Anatomy and Physiology of the Speech and Hearing Mechanism (3) F Craven**

Anatomical, physiological and neurological components of the speech and hearing mechanism. Designed for students planning to enter the clinical program in communicative disorders.

**271. Phonetics (3) F Ryan**

Phonetic basis of speech sounds and the various factors which influence pronunciation. Consideration is given to linguistic variations, regional dialects and standards.

**Upper Division****330. Speech and Hearing Science (3) F,S Beattie**

Prerequisite: C.D. 260. Acoustics of speech production and response including generation and transmission of sound, dB notation, psychophysical methods, pitch and loudness perception, differential sensitivity to intensity and frequency, fatigue, masking, binaural hearing, speech acoustics and perception, and speech analysis and synthesis. (Lecture 2 hours, Lab 3 hours).

**361. Language and Speech in Normal and Exceptional Children (3) F,S Yates**

Principles of language and speech development related to cognitive, linguistic and communication behaviors. Survey of characteristics of deviant development of language and speech. Not open for credit for communicative disorders majors.

**363. Language and Speech Development (3) F,S Faculty**

Prerequisites: C.D. 260, 261, 271. Cognitive, associative, and linguistically oriented theories of language function. The student shall gain knowledge of the sequences of cognitive, phonological, morphological, semantic and syntactical components of language. Recommended for enrollment by Communicative Disorders majors only.

**373. Principles of Audiometry I (3) F,S Beattie, 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.

**380. Sign Language and Non-Vocal Communication Systems (3) S Faculty**

Origin, development and principles of sign language. Practice with the American Manual Alphabet, American Sign Language and Signing Exact English to provide basic conversational skill; other sign systems and modes of nonvocal communication are discussed. (Lecture-discussion 3 hours)

**\*431. Pediatric Audiology (3) F,S Warren**

Prerequisite: C.D. 373. The auditory development of the child; evaluative techniques by age level, the categories and the parent role in a diagnostic, therapeutic and the counseling situation. (Lecture 2 hours, laboratory 3 hours.)

**\*432. Audiometry II (3) F,S Beattie, Warren**

Prerequisite: C.D. 373. Audiological assessment of (1) pathologies affecting the middle ear, cochlea, 8th nerve, brain stem, and cortex, and (2) functional hearing loss. Includes administration and interpretation of discussed test batteries, observation/participation in auditory evaluations and experimentation, and a laboratory notebook detailing course activities.

**\*440. Aural Rehabilitation for the Hearing Impaired (3) S Beattie, Warren**

Prerequisite: C.D. 373. The psychology of hearing impairment and the philosophy of aural rehabilitation together with specific reference to speech reading, auditory training are presented along with educational considerations for the hearing impaired.

**456. Speech Pathology I: Disorders of Phonology (3) F Faculty**

Prerequisites: C.D. 260, 271, 330, 363. Etiology, assessment, and treatment for disorders of phonology.

**\*466. Speech Pathology II: Fluency Disorders (3) F Craven, Thompson**

Prerequisite: C.D. 261, 271, 330, 363. Etiology, assessment, and therapy for disturbances in the fluency of speech with emphasis on psychological, physiological, and linguistic variables correlated to disfluent behaviors.

**\*476. Speech Pathology III: Disorders of Voice/Oro-facial Mechanism (3) S Faculty**

Prerequisites: C.D. 261, 271, 330, 363. Etiology, diagnosis and therapy of functional and organic voice disorders related to vocal abuse, neurological impairment, auditory impairment, oro-facial abnormalities and laryngeal carcinoma.



**\*481A. Speech Pathology IV: Disorders of Language (3) F Yates**

Prerequisites: C.D. 261, 271, 330 and 363. An analysis of the components of language and how each is involved with language disorders in children. Provides for the understanding and recognition of variables for the assessment and clinical management of such children.

**481B. Speech Pathology IV: Disorders of Language Neuropathologies (3) S Yates**

Prerequisite: C.D. 481A. Neurophysiological and neurolinguistic basis for language and speech disorders associated with central nervous system pathologies. Provides for the recognition and understanding of variables for the assessment and clinical management of such disorders.

**\*482. Teaching the Severe Language Handicapped/Aphasic Child (3) F Faculty**

Prerequisites: C.D. 481 A-B. Designed for SLH/A teachers to provide preparation for utilizing assessment information and specialized teaching strategies. The course explores both conditioning techniques and cognitive discovery experiences necessary for both behavioral management and cognitive learning experiences in social science, language arts, mathematics and reading. (Lecture 2 hours, laboratory 3 hours.)

**483. Principles of Assessment in Communicative Disorders (3) F,S Craven, Yates**

Prerequisites: C.D. 456, 466, 476, 481A-B; corequisite: C.D. 669 (one unit). Differential diagnostic procedures in speech and language disorders. (Lecture 2 hours, diagnostic clinic 3 hours.)

**489. Clinical Methods: Introduction and Observation (3) F,S Faculty**

Prerequisites: C.D. 432, 456, 466, 476, 481A-B. Introduction to programming for therapy. Focus is on data collection, charting, formulation of objectives, parent/client counseling and client-clinician relationships. 25 hours of clinic observation and participation are included. (Lecture 2 hours, laboratory 3 hours.)

**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) F Beattie**

Prerequisites: C.D. 373, 430 or consent of instructor. Use of instrumentation commonly used in audiology, such as the sound level meter, electronic counter-timer, multi-meter, oscilloscope, filters, mixer, impedance audiometer, psychogalvanometer, hearing aid test box and Grason-Stadler 1200 system. (Lecture 1 hour, laboratory 6 hours.)

**574. Hearing Aids (3) S Beattie**

Prerequisites: C.D. 373, 431, 432. Role of the hearing aid in auditory rehabilitation, hearing aid circuitry and assessment, types of hearing aids, response characteristics; hearing aid selection and evaluation.

**590. Advanced Topics and Current Issues in Communicative Disorders (1-3) F,S Faculty**

Selected topics from the most recent developments and issues in Speech-Language Pathology and Audiology. Course content will vary with each offering. May be repeated for credit under different topics for a maximum of three units. Topics will be announced in the *Schedule of Classes*.

**662. Seminar in Language Disorders in Children (3) F,S Thompson, Yates**

Prerequisite: C.D. 481A or equivalent, 696. The subsystems of language: linguistic structure, cognitive competency and communication abilities are investigated in six major language intervention therapeutic approaches.

**663. Seminar in Disorders of Phonology (3) F,S Craven, Ryan, Thompson**

Prerequisites: C.D. 456, 696 or equivalent. Advcurrent information in the description assessment and treatment of phonological disorders. Survey of current literature and practices. Practice in conducting procedures.

**664. Seminar in Disorders of Voice and the Oro-facial Mechanism (3) F,S Faculty**

Prerequisites: C.D. 476, 696. Selected problems in voice disorders through an investigation of the literature and clinical research.

**665. Seminar in Language Disorders in Adults (3) F,S Moore**

Prerequisites: C.D. 481B, 696. Provides an understanding of neuropathological substrates of language disorders in adults resulting from brain damage. Provides for the recognition and assessment of the syndromology and clinical aspects of adult language disorders.

**666. Seminar in Fluency Disorders (3) F,S Craven, Moore, Ryan**

Prerequisites: C.D. 466, 696. Historical and current research and its effect upon the assessment and management of fluency disorders.

**669A. Clinical Practice in Phonological Disorders (2) F,S Faculty**

Prerequisites: C.D. 483, 489; pre- or co-requisite: C.D. 663 or consent of instructor. Student conducts assessment of phonological disorders and management of therapy, under supervision, with clients in the university speech and hearing clinic. Students handle all aspects of clinical program including initial interviews, parent counseling, and testing.

**669B. Clinical Practice with Pre-School Language Disordered Children (2) F,S Faculty**

Prerequisites: C.D. 483, 489; pre- or co-requisite: C.D. 662 or consent of instructor. Student conducts individual and group language therapy, under supervision, within a nursery school environment. Student makes a developmental diagnosis through assessments and formal tests.

**669C. Clinical Practice with School-Age Language Disordered Children (2) F,S Faculty**

Prerequisites: C.D. 483, 489; pre- or co-requisite: C.D. 662 or consent of instructor. Student conducts individual and group language therapy, under supervision, within a clinical and/or school environment. Student makes a diagnosis through assessments and formal testing.

**669D. Clinical Practice with Voice and Oro-facial Mechanism Disorders (2) F,S Faculty**

Prerequisites: C.D. 483, 489; pre- or co-requisite: C.D. 664 or consent of instructor. Student conducts therapy sessions under supervision for persons with functional and/or organic voice disorders. Practicum includes initial interviews, diagnostics, therapy program planning, counseling and report writing.



**669F. Clinical Practice with Fluency Disorders (2) F,S Faculty**

Prerequisites: C.D. 483, 489; pre- or co-requisite: C.D. 666 or consent of instructor. Assessment, planning, and management in a supervised clinical experience with persons who have fluency disorders.

**669G. Clinical Practice in Audiology (2) F,S Faculty**

Prerequisites: C.D. 431, 432, 440, 489. Student will conduct individual and group therapy with hearing impaired clients, as well as audiological evaluation of hearing impaired persons.

**669H. Clinical Practice - Special Programs (2) F,S Faculty**

Prerequisite: At least three of the C.D. 669A through G courses. Specialized practice placement to obtain experience with speech, language, and hearing disorders.

**669J. Clinical Practice with Language Disordered Adults (2) F,S Faculty**

Prerequisites: C.D. 483, 489; pre- or co-requisite: C.D. 665 or consent of instructor. Student conducts clinical management sessions, under supervision, for adults with neurological language disorders. Practicum includes initial interviews, assessment, management program planning, counseling and report writing.

**670. Internship in Speech and Language Pathology (5) F,S Faculty**

Prerequisite: A minimum of three clinics selected from C.D. 669A through I (which have provided a minimum of 150 clinical contact hours) with a grade point average of 3.0 or better in those clinics. Advanced clinical practice with speech and language disorders persons in a clinical setting in the community.

**674. Seminar in Audiology: Aural Rehabilitation (3) S, even years Beattie, Warren**

Prerequisites: C.D. 440, 696. Major emphasis will be placed on advanced study of one or more areas covered under the term "aural rehabilitation." Topics will include speech reading, manual communication, auditory training, speech conservation, hearing aids and an overview of the fields of educational and industrial audiology.

**675. Seminar in Audiology: Electroacoustic and Physiological Assessment (3) S Odd years Beattie**

Prerequisites: C.D. 431, 432, 696. Major emphasis is placed on the advanced study of acoustic immittance and evoked response audiometry. Other topics include electronystagmography, cardiachometry, eletrodermal audiometry, and/or respiration audiometry.

**679. Practicum in Audiology (2) F,S Beattie, Warren**

Prerequisites: C.D. 431, 432, 440. Student conducts evaluation and rehabilitative sessions under supervision with persons with more complex hearing disorders. Student handles all aspects of the audiologic program including evaluation consultation, program planning and execution. May be repeated for credit to a maximum of six units.

**680. Internship in Audiology (5) F,S Beattie, Warren**

Prerequisites: C.D. 669A or B, 679 (2-2); a minimum of 150 clinical contact hours with a minimum grade point average of 3.0 in clinical practice. Advanced clinical practice in audiology with hearing impaired persons in a community facility. (May be repeated once for credit.)

**696. Research Methods in Communicative Disorders (3) F,S Beattie, Ryan, Thompson**

Prerequisite: Psychology 210 or equivalent or consent of instructor. Problems, procedures, methods of a descriptive, historical and empirical nature as utilized in communicative disorders research.

**697. Directed Research (1-3) F,S Faculty**

Prerequisite: Communicative Disorders 696 or consent of Department Graduate Committee. Required of all candidates for the master's degree not electing the thesis option.

**698. Thesis (1-4) F,S Faculty**

Prerequisites: Advancement to candidacy for master's degree and consent of the Department Graduate Committee. Preparation, completion and submission of an acceptable thesis in partial fulfillment of the requirements for the master's degree.

# Comparative Literature

## School of Humanities

**Department Chair:** Mr. Roland Bush  
**Professors:** Hubble, Markman.  
**Associate Professors:** Bush, Jernigan.  
**Undergraduate Adviser:** Mr. Roland Bush.

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, creative writing, and film.

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 and 431 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 and 431 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.)

244 **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, 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, 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, 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 Faculty

Representative selections, in translation, from literature of the Near East, India, China and Japan.

##### 250. Literature and the Other Arts (3) F, S Bush, 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, 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 Faculty

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. Masterpieces of European Literature (3,3) F 1981, S 1982 Bush, 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.

##### 349. Literary Movements (3) F Bush, 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 Faculty

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 Faculty**

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.

**410. Comparison of the Arts (3) F,S Bush, Hubble, Jernigan, Markman**

Comparison of the history and theory of literature, art, and music. Primary emphasis on technique analysis, genre study, influences from one medium to another and cultural trends. May be repeated with different topics up to nine units. Topics to be announced in the *Schedule of Classes*.

**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 (36) Bush, 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, 1982 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 1982 Hubble**

European literature, in translation, from about 1900 to the present.

**440. Latin American Literary Studies (3) F,S Bush**

Special topics in Latin American literature. The topic for the semester will be announced in the *Schedule of Classes*. May be repeated with different topics up to nine units.

**445. American Folklore Studies (3) F,S Faculty**

Special topics in American folklore. Topics are chosen to provide a bridge between literary, aesthetic and specialized folkloristic studies of American culture. Special attention will be paid to European and Third World contributions to American folklore. Topics to be announced in the *Schedule of Classes*. May be repeated with different topics up to nine units.

**449. Critical Studies in Major Continental Writers (3) S Bush, 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, 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, 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, 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) F,S Hubble, Markman**

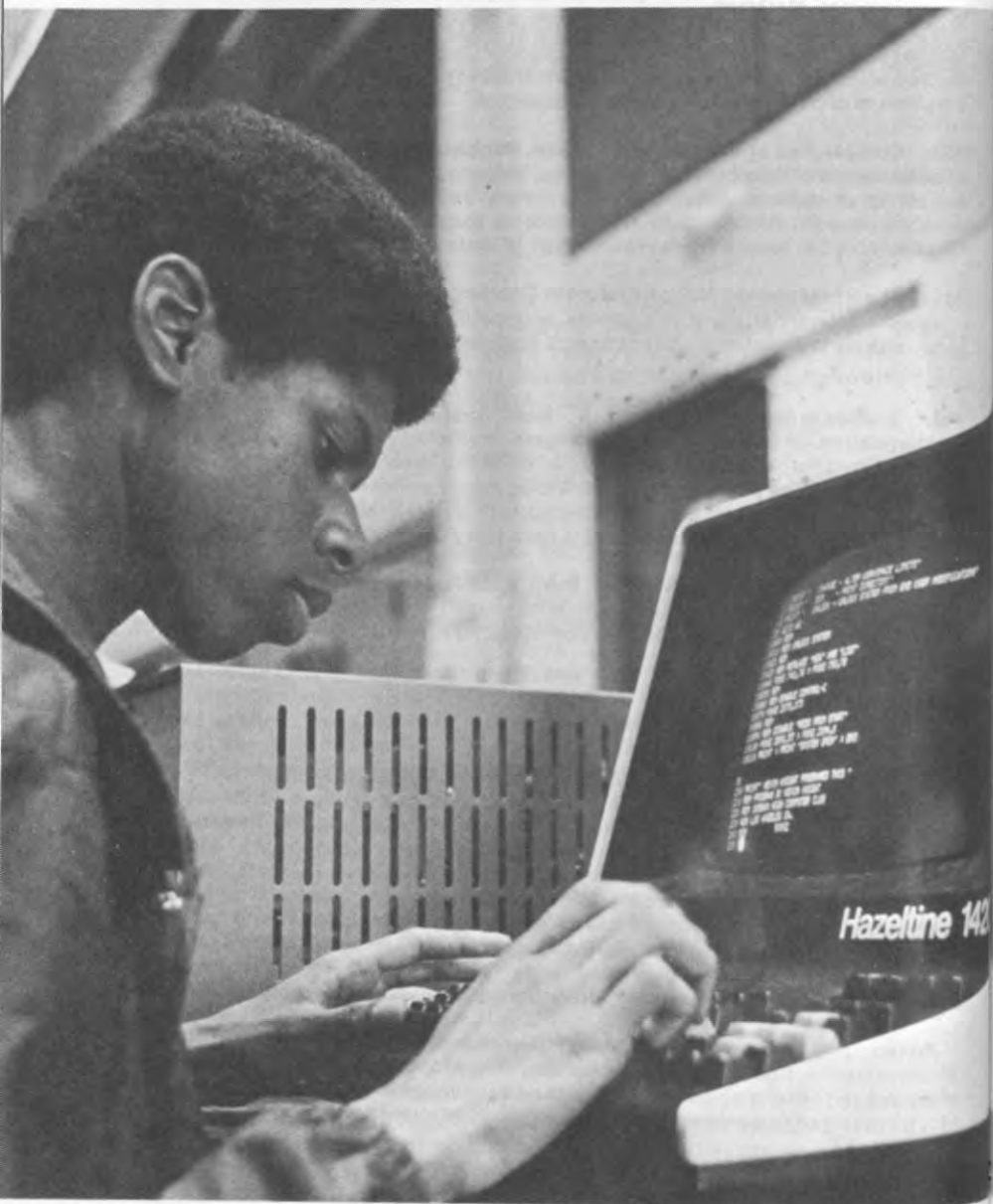
Intensive study of the theories and methods of comparing and interrelating literature with other disciplines such as various areas among the fine arts, the social sciences and the sciences.

**502. Modern Folklore Research (3) F,S Faculty**

Intensive study of folklore research methods and techniques with particular emphasis on rural-to-urban changes in the modern city.

**550. Topics in Comparative Literature (3) S Bush, Hubble, Jernigan, Markman**

Prerequisite: Comparative Literature 501 or consent of instructor. Special studies of movements, figures and relationships in world literature; or between world literature and other disciplines. Topics to be announced in the *Schedule of Classes*. May be repeated to a maximum of nine units with different topics.



## Computer Studies in the Liberal Arts

### School of Social and Behavioral Sciences

**Director:** Dr. Glenn Walker.

CSULB offers four different computer science degrees. The particular degree program selected will depend on the student's academic interests and occupational goals. Each of these programs is briefly described below. For more information, see the explanation elsewhere in this catalog under the department indicated.

Computer courses at CSULB are taught by the following departments: Accountancy, Biology, Chemistry, Civil Engineering, Computer Studies, Economics, Electrical Engineering, Geography, Industrial Technology, Instructional Media, Management, Mathematics, Mechanical Engineering, Political Science, Psychology, Physics, and Quantitative Systems.

*Business Computer Methods* { B.S. in Business Administration  
Major in Business Computer Methods

This program leads toward computer-oriented careers in business, industry, education, and government. It provides a foundation for problem-solving and decision-making using the technology of the computer. This new option prepares the student for positions in a dynamically growing field in business. Major courses for the degree are: Comparative Analysis of Computer Languages, Administrative Information Systems, Business Computer Methods, Computer Application for Business Problems, and Computer Model Simulation. (See *Quantitative Systems*)

*Computer Science and Engineering* { B.S. in Engineering  
Major in Computer Science and Engineering

This program allows the student to acquire substantive competence in computer sciences and related fields. 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, plus electives in the student's particular interest area. (See *Electrical Engineering*)

*Computer Science and Mathematics* { Bachelor of Arts -  
Major in Mathematics

This program is designed to prepare students for careers in the computer field or for graduate study in Computer Science and/or Mathematics. (See *Mathematics*)

*Computer Science Special Major* { Bachelor of Arts  
Special Major-Computer Science

This program provides students an individualized course of study leading to a degree when legitimate academic and professional goals are not accommodated by standard degree majors. Consisting of correlated studies in two or more departments, the computer science special major has involved combinations of computer science and related courses from Computer Studies, Electrical Engineering, Industrial Technology, Instructional Media, Mathematics, Political Science, and Quantitative Systems. (See *Special Major*)

Students interested in the Computer Science Special Major 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 Faculty**

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.

**210. Computer Statistics (3) 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. Not open to students with credit in Sociology 210. (Lecture 3 hours.)

**280. Introduction to APL (3) F Walker**

Fundamentals of the computer programming language APL, including on-line experience using APL interactive terminals. Examples and assignments covering applications to a wide variety of different fields. No previous computer experience necessary.

# Criminal Justice

## School of Applied Arts and Sciences

**Department Chair:** Dr. Gary B. Adams.

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

**Associate Professors:** Adams, Good, Grecnik, Kaci, Rush.

**Undergraduate Adviser:** Dr. George E. Rush.

**Graduate Adviser:** Dr. John P. Kenney.

**Graduate Committee:** Germann, Grecnik, Kenney, Rush, Whisenand.

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.

Five options are available: administration, 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 maximum of 24 units of lower division criminal justice (police science) courses are acceptable for transfer. Twelve units will be accepted for Criminal Justice 101, 151, 155 and 157 if equivalent subject matter work has been completed at a community college. It should be understood that these 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.

Graduate study in criminal justice provides the opportunity for men and women to meet (1) the need for adequately prepared personnel to fill college and university positions in the broad field of criminal justice, (2) the need for highly skilled and broadly educated persons to engage in research, (3) the need for persons planning professional careers in the administration of criminal justice, and (4) the need for persons with advanced education to engage in the administration of programs of corrections, policing and security.

The master of science degree in criminal justice will expand and increase individual competency, develop and mature thought processes, aid in gaining insights into professional leadership and knowledge to assure leadership positions and permit an exchange of student-faculty ideas to further the spirit of research and scholarship to enhance professional and personal capabilities.



In addition to being admitted by the Office of Admissions and Records, applicants also must be accepted for admission by the Criminal Justice Department before their program for a master's degree can be formulated. The following factors are considered:

1. Scholastic achievement as represented by official transcripts of all college course work. **Each applicant should request a copy of the official transcript be sent to the graduate adviser in the Criminal Justice Department in addition to the copies required by the Office of Admissions and Records.**
2. Resume and statement of goals.
3. Three letters of recommendation.

### Major in Criminal Justice for the Bachelor of Science Degree

#### Law Enforcement Option (code 3-1036)

*Upper Division:* Criminal Justice 301, 403, 480, 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, 424, 481, 490, 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, 403, 480, 495 (students currently working in a correctional setting will be required to substitute three units of Criminal Justice 490, Independent Study); nine units required: Criminal Justice 340, 356, 383; six units selected from Criminal Justice 303, 315, 324, 376, 404, 481, 490, 499; six units selected from Criminal Justice 469, 470, 473, 475.

*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 115S and one of the following: Biology 207, 212 or Microbiology 210.

*Upper Division:* Criminal Justice 301, 311, 312, 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, 332, 403, 431, 435, 480, 495 (students currently employed in the area of security administration will be required to substitute three units of Criminal Justice 490, Independent Study, for 495); six units selected from Criminal Justice 335, 336, 437; three units selected from Criminal Justice 325, 361, 421, 422, 424, 482, 485, 490, 499; and three 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, 403, 480, 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, 424, 481, 490, 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 with a Major in Criminal Justice (code 6-1031)

##### Prerequisites

1. A bachelor's degree with a major in criminal justice or a directly related field or a bachelor's degree which includes 24 units of criminal justice or directly related courses comparable to courses required for a major in criminal justice at this University, and 12 units of social science. (Students deficient in undergraduate preparation must take courses to remove the deficiencies as determined by the Department Graduate Studies Committee.)
2. A student must have an undergraduate average of 3.0 (B) or better in criminal justice or an acceptable related area, unless an exception is made by the department.

##### Advancement to Candidacy

1. Student must satisfy the general University requirements for advancement to candidacy as specified in this *Bulletin* and must complete the specific requirements set forth in the *Bulletin* and in the School of Applied Arts and Sciences Handbook in effect during the semester of advancement to candidacy.
2. The graduate program must be approved by the department graduate adviser and Director of Graduate Studies and Research, School of Applied Arts and Sciences.
3. Students must complete six graduate units prior to advancement to candidacy.

##### Requirements for the Master of Science

Completion of 30 units of approved upper division and graduate courses, of which 24 units must be in criminal justice. Included in the 30 units are the following required core courses (16 units): Criminal Justice 581, 698; and a thesis (four units) or Criminal Justice 699.

##### Lower Division

#### 101. Introduction to the Administration of Justice (3) F,S Faculty

History and philosophy of administration of justice in America; recapitulation of the system; identifying the various subsystems, role expectations and their interrelationships; theories of crime, punishment and rehabilitation; ethics, education and training for professionalism in the system.

#### 151. Basic Concepts of Criminal Law (3) F Faculty

Historical development, philosophy of law and constitutional provisions; definitions, classification of crime and their application to the system of administration of justice; legal research study of case law, methodology and concepts of law as a social force.

**155. Basic Concepts of Evidence (3) F, 1982 and every third semester Faculty**

Origin, development, philosophy and constitutional basis of evidence; constitutional and procedural considerations affecting arrest, search and seizure; kinds and degrees of evidence and rules governing admissibility; judicial decisions interpreting individual rights and case studies.

**157. Principles and Procedures of the Justice System (3) S, 1982 and every third semester Faculty**

In-depth study of the role and responsibilities of each segment within the administration of justice system: law enforcement, judicial, corrections. A past, present and future exposure to each subsystem procedures from initial entry to final disposition and the relationship each segment maintains with its system members.

**Upper Division****General****301. Contemporary Issues in Criminal Justice (3) F, S Germann, Rush**

Prerequisite: Criminal Justice 101. Criminal justice studied as a total interacting system: police, corrections, parole, probation and the judiciary.

**303. Basic Statistics in Criminal Justice (3) F, S Faculty**

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 Faculty**

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) F Faculty**

Prerequisite: Criminal Justice 324. Behavioral science approach to supervision in criminal justice. Includes sensitivity training, individual and group interview rehearsals and group dynamics.

**480. Introduction to Research Techniques (3) S Faculty**

Prerequisite: Any basic course in statistics. Introduction to basic techniques in criminal justice research including library research, report writing, research design models, sampling techniques, questionnaire construction, interview techniques and participant observation.

**\*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 (1-3) 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. Community Relations in Criminal Justice (3) F, S Faculty**

Individual and group study of relationships between criminal justice agencies and the public. Exploration of areas of conflict and cooperation.

**\*482. Crime, Police and the Political Process (3) F Faculty**

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) S 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 Kaci**

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. Advanced Legal Process: Criminal Law (3) F, S Kaci**

Prerequisite: Criminal Justice 151. 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. Advanced Legal Process: Criminal Evidence (3) F, S Faculty**

Prerequisite: Criminal Justice 155. Issues and problems of proof in civil and criminal trials; admissibility; examining witnesses; constitution consideration and exclusionary rules.

**357. Advanced Legal Process: Criminal Procedure (3) F, S Faculty**

Prerequisite: Criminal Justice 157. 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****340. Foundations of Corrections (3) F, S Grencik**

Historical, sociological and philosophical development of societal reactions to law violators. Theories of punishment, traditional and innovative treatment methods and correctional models will be examined. Attention will also be focused on the correctional institution as a complex organization and on issues relevant to administrative problems. Traditional grading only. Not available to students with credit in Criminal Justice 365.

**356. Legal Aspects of Corrections (3) S Faculty**

Emerging rights of the convicted offender are explored with focus upon constitutional guarantees, appellate courts' decisions and their impact upon administration. Statutory laws with constitutional interpretations as they affect and implement the specialized areas of probation, parole and correctional institutions will be explored. Traditional grading only. Not available to students with credit in Criminal Justice 354 and 358.

**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.

**473. Evaluation of Correctional Effectiveness (3) S Faculty**

Prerequisites: Criminal Justice 340 and 480 or consent of instructor. General survey of methodological strategies available to correctional personnel for evaluation of program effectiveness. Students will develop and implement an evaluation of an existing program. Traditional grading only.

**475. Contemporary Issues in Corrections (3) S Grencik**

Prerequisite: Criminal Justice 340. Issues relating to recent changes in correctional theory and practices which affect convicted offenders and correctional staff will be discussed. These include violence in prisons, prison gangs, rape in prison, homosexuality, special problems of women and minorities in prison, concerns of parolees and probationers, as well as correctional staff. Also special problems such as child abuse and spouse beating will be discussed. Traditional grading only.

**Criminalistics****311. Basic Criminalistics (3) 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 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.)

**\*411. Advanced Criminalistics (3) S 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.)

**Industrial Security****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.



**332. Principles of Loss Prevention (3) S Faculty**

Overview of the functional operations of those specialized areas of security management relating to loss prevention and risk management. Includes areas of fire protection, theft control, safety, insurance, OSHA regulations and security surveys.

**335. Commercial Security (3) S Faculty**

Examination of the complexity of commercial security; various management approaches; and protection within the system. Legislation and proposed legal measures to ensure protection will be examined.

**336. Government Security (3) F Faculty**

Historical, philosophical and legal basis of government security programs. The role of government agencies relating to security and intelligence in modern U.S. society. The structure of the organization and a survey of checks and balances within the system.

**341. 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) S Germann, Rush**

Prerequisite: Consent of instructor. Control and prevention of crime in urban settings; interagency relationships; the changing law enforcement processes.

**541. Correctional Counseling and Case Management (3) F Grecik**

Issues, problems and situations confronting the correctional counselor/caseworker with suggestions for counselor strategies and reactions. The personal counseling or treatment role of the counselor/caseworker in the correctional milieu is emphasized. Referral strategies and suggestions for effective use of correctional resources in program design are included.

**551. Criminal Justice Legal Systems (3) F Kaci**

Prerequisite: One upper division law course. Study of areas of the legal system affecting criminal justice agencies; criminal courts, juvenile courts, mental health commitments, civil courts and the role of the U.S. Constitution. State and federal court systems will be explored.

**581. Theories of Crime Causation and Prevention (3) F Becker, Rush**

Prerequisite: Consent of instructor. Relationship and interaction between social structure and crime. Investigation into the classical and behavioral theories of crime and crime prevention.

**599. Special Topics in Criminal Justice (3) F,S Faculty**

Prerequisite: Consent of instructor. Group investigation of selected topics in criminal justice. Topics to be announced in the *Schedule of Classes*. May be repeated for a maximum of six units.

**621. Seminar in Criminal Justice Administration (3) S Kenney**

Prerequisite: Consent of instructor. Criminal justice policy development and implementation; administrative organization theories; examination of current issues and changes taking place.

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

Prerequisite: Consent of instructor. Special study and original research in automatic data processing applications in the administration of criminal justice; technological and other developments; equipment and methods; staff studies and potentialities.

**623. Seminar in Comparative Criminal Justice Administration (3) F Becker, Kenney**

Prerequisite: Consent of instructor. Advanced study of the theories, philosophies and techniques of criminal justice worldwide and nationwide. Intensive review of the literature, recent developments and individual research.

**624. Seminar in Criminal Justice Problems (3) S Germann**

Prerequisite: Consent of instructor. Intensive study and individual research of the problem areas in the broad spectrum of criminal justice.

**630. Seminar on Organized Crime (3) S Faculty**

Prerequisite: Consent of instructor. Historical development of organized crime; its criminology; various techniques used against it and detailed consideration of the political, social and economic conditions of its evolution. Not available to students with credit in Criminal Justice 599 on the topic "Organized Crime."

**640. Seminar in Police Administration (3) S Adams, Kenney, Whisenand**

Theories, concepts and issues related to the administration, organization and management of the police function. Research into changes and modification taking place.

**641. Seminar in Correctional Administration (3) S Faculty**

Theories, concepts and issues related to the administration, organization and management of probation, parole and institutional programs. Research into changes and modifications taking place.

**650. Seminar in Juvenile Justice (3) F Adams, Kenney, Whisenand**

Study of juvenile justice programs administered by the police, court and correctional agencies; analysis of theories of delinquency causation and prevention; current issues.

**690. Seminar in Criminal Justice Program Evaluation (3) S Whisenand**

Application of the social scientific research methods to determine effectiveness of operational criminal justice programs. Analysis of reports of evaluative research. Preparation of reports.

**696. Research Methodology (3) F Faculty**

Prerequisite: Undergraduate course in statistics. Scientific method of research; variations in research design and methodology; application of research findings to problem solution.

**697. Directed Research (1-3) F,S Faculty**

Prerequisites: Consent of instructor, advancement to candidacy. Independent research into criminal justice problems; issues and theories.

**698. Thesis (1-4) F,S Faculty**

Prerequisites: Criminal Justice 696, advancement to candidacy. Planning, preparation and completion of a thesis.

699. Integrated Analysis of Criminal Justice (3) F Germann, Kenney

Prerequisites: Criminal Justice 697, classified M.S. status and within six units of completion of the 30-unit minimum graduate program. A comprehensive course which serves as the required terminal examination for Criminal Justice Department candidates. A project required. A principal requirement will be the integration and synthesis of concepts and issues covered in the core course of the curriculum. Criminal Justice 697 may not be taken concurrently.

# Dance

## School of Fine Arts

**Department Chair:** Dr. Joan Schlaich

**Professor:** Finot, Schlaich.

**Associate Professor:** Kennedy.

**Music Directors:** Ruby Abeling, Eric Ruskin.

**Credential Adviser:** Dr. Joan Schlaich.

**Undergraduate Advising Coordinator:** Ms. Pat Finot.

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 performer in dance companies, on television or in dance films; or a choreographer. The curriculum prepares students for graduate programs in dance. It 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. Students wishing to major or minor in dance must audition for placement prior to starting the program. Auditions are held in December, May and August. Applicants should contact the Dance Department in advance of enrollment.

Courses approved for General Education credit in Category III — Humanities and Fine Arts include Dance 200, 441, 485.

The part-time faculty includes Susan Cambigue, Ellen Graff, Carlton Johnson, Elizabeth Lee, Gloria Newman, Jeff Slayton, Betty Walberg, Bonnie Oda Homsey, Mary Jane Eisenberg, and Fred Strickler.

### **Major in Dance for the Bachelor of Arts Degree (code 2-5230)**

*Lower Division:* Dance 112A, 112B, 114A, 114B, 120, 212A, 212B, 220.

*Upper Division:* Dance 320, 331, 350A, 441, 488; Physical Education 304; and a minimum of one unit of Dance 180A or 180B, and one unit of Dance 380A or 380B.

*Electives:* A minimum of 10 units from Dance 100, 114B, 116A, 116B, 117, 120, 131, 181A,B, 312A, 312B, 314A, 318, 350B, 370, 381A,B, 420A, 462, 485, 490, 495, 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, 220.

*Upper Division:* Dance 320, 331, 441, 488 and a minimum of one unit of Dance 180A or 180B and one unit of 380A or 380B.



**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 classes are not screened.)*

**Lower Division****100. Orientation to Dance (2) F,S Schlaich**

Introductory information, degree requirements, career opportunities, current problems and issues in the field. Student identification of personal learning needs and goals. Evaluation on credit/no credit basis.

**111. Beginning Modern Dance (2) F,S Faculty**

Basic skills and techniques of modern dance. Not open to dance majors. (Activity 4 hours.)

**112A,B. Modern Dance Technique I,II (3,3) F,S Faculty**

Basic skills and techniques of modern dance. May be repeated once for CR/NC grade. (Activity 6 hours.)

**113. Beginning Ballet (2) F,S Faculty**

Basic skills and techniques of ballet. Not open to dance majors. (Activity 4 hours.)

**114A,B. Ballet Technique I,II (2,2) F,S Lee**

Basic skills and techniques of ballet. May be repeated once for CR/NC grade. (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.

**120. Improvisation (2) F Finot**

Use of improvisation as an introduction to structural form; individual and group problems. (Activity 4 hours.)

**131. Introduction to Music for Dance (1) 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 Faculty**

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 Faculty**

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.

**200. Viewing Dance (3) F,S Kennedy**

Introduction to contemporary dance theatre through viewing dance films (modern dance, ballet and ethnic), dance performances, and lecture/discussions on dance.

**212A,B. Modern Dance Technique III, IV (3,3) F,S Faculty**

Increased skill in the techniques of modern dance. May be repeated once for CR/NC grade. (Activity 6 hours.)

**220. Elements of Solo Choreography (3) F,S Schlaich**

Prerequisite or corequisite: Dance 112A. Theory and practice in the basic elements of dance composition. (Lecture 1 hour, activity 4 hours.)

**Upper Division****300. Survey of American Show Dance (3) S Faculty**

History and development of dance as popular entertainment. Styles and basic vocabulary. Exploration of the choreographic process.

**312A,B. Modern Dance Technique V, VI (3,3) F,S Faculty**

Increased skill in the technique of modern dance. May be repeated once for CR/NC grade. (Activity 6 hours.)

**314A. Ballet Technique III (2) F,S Lee**

Advanced skills in the techniques of ballet. May be repeated once for CR/NC grade. (Activity 4 hours.)

**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.)

**320. Small Group Composition (3) S Faculty**

Prerequisite: Dance 220. 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 or corequisite: Dance 112A 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.)

**335. The History of the American Musical in Film (3) S Kahan, Schlaich**

History of film musicals through lectures and feature films. Focus is on the directors/actors and choreographers/dancers in films representative of important historical periods, studios and styles. Same course as Theatre Arts 335.

**340. Dance Accompaniment (3) F Walberg**

The art of musical improvisation for the dance class-modern and ballet. Acquiring the skill of improvising in all periods and styles of music. Knowledge of harmony and basic keyboard training required. Other instrumentalists by consent of instructor.

**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.)

**370. Dance in the Elementary Curriculum (1) F,S Cambigue**

Improvisational approaches to basic elements of dance as integrated into the total elementary curriculum; as a basic form of communication, as an instrument for the development of individual creativity, as identification of dance as an art form.

**380A,B. Dance Performance (1,1) F,S Finot**

Participation as a performer and/or choreographer in Dance Department-approved University-sponsored production. Most 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.

**398. Fieldwork in Dance — Elementary (1-3) F,S Faculty**

Prerequisite: Enrollment in teaching program in dance. Supervised teaching experience in off-campus setting. Practical experience working with students in kindergarten through 6th grade. Credit/no credit only. May be repeated for a maximum of six units.

**399. Fieldwork in Dance — Secondary (1-3) F,S Faculty**

Prerequisite: Enrollment in teaching program in dance. Supervised teaching experience in off-campus setting. Practical experience working with students in grades 7 through 12. Credit/no credit only. May be repeated for a maximum of six units.

**412A,B. Modern Dance Technique V, VI (3,3) F,S Faculty**

Prerequisite: Dance 312A,B or consent of instructor. Increased skill in the technique of modern dance (activity 6 hours). Must be taken the first time for a grade and may be repeated once for CR/NC.

**420. Advanced Composition (3) F Faculty**

Prerequisite: Dance 320 or consent of instructor. Approaches to the development of choreographic materials of extended structure and content.

**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 Faculty**

Prerequisite: Dance 112A or 162. Movement, modern dance and choreography for the actor, teacher and director of theatre arts and musical theatre.

**480A,B. Performance Tour (3,3) F,S Finot**

Prerequisite: Dance 120 and audition. Development and performance of informal concerts for elementary schools, middle schools, and secondary schools. Students must enroll in 480A,B in consecutive semesters starting in the Fall.

**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 Faculty**

Prerequisite: Open to dance majors and minors only. Analysis and practice in the production elements of dance concerts. Course is coordinated with a 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*.

**495. Repertory (3) F,S Faculty**

Prerequisite: Audition. Students learn and perform works of distinguished choreographers. Leads to performance.

**499. Directed Studies in Dance (1-3) F,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.

**Graduate Division****599. Directed Studies (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Individual research or project under the guidance of a faculty member. May be repeated for credit to a maximum of six units.

# Economics

## School of Social and Behavioral Sciences

**Department Chair:** Dr. Elbert W. Segelhorst.

**Emeritus:** Peter F. Palmer.

**Professors:** Atherton, Beaumont, Cole, Crowther, Glezakos, Dvorak, Ishimine, J.R. Powell, Rooney, Segelhorst, Simonson, Stern, Strain.

**Associate Professors:** R.C. Anderson, Farrell, Larmore, Magaddino, Skov, Tennenbaum.

**Credential Adviser:** Dr. I. Lee Skov.

**Undergraduate Adviser:** Dr. Constantine Glezakos.

**Graduate Adviser:** Dr. Andrew Stern.

**Graduate Committee:** Beaumont, Ishimine, Powell, Stern, Tennenbaum.

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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.

The master of arts degree in economics is designed to provide academic preparation for positions in industry, government, consulting agencies and teaching, where the M.A. is the most advanced degree required. The emphasis is on the immediate application of more advanced principles of analysis to business, management and government. Candidates are responsible for observing the general requirements stated in this *Bulletin* as well as requirements specified by the Economics Department. Detailed information on requirements may be obtained from the departmental graduate adviser.

A limited number of graduate assistantships are available to qualified students.

### Major in Economics for the Bachelor of Arts Degree (code 2-8510)

**Lower Division:** Economics 200, 201, Accounting 202 and Mathematics 100 or equivalent. 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. At least one of these additional courses must be at the 400 level.



The Department *also* requires a minimum of two courses *outside of Economics* (totaling six or more units), in addition to courses fulfilling any categories of the General Education requirement. Students may take any upper division course from the departments listed below, or any of the following lower division courses: Anthropology 100; Geography 100; History 131A, 131B; Mathematics 115B, 117, 122, 123, 224, 246; Political Science 201; Psychology 100; Social Welfare 220; Sociology 100; a departmentally approved course in computer studies.

#### Minor in Economics (code 0-8510)

The economics minor is particularly suitable for students planning careers in primary or secondary education or students desiring a broad-based introduction to the methods of economic analysis. A minimum of 21 units which must include Economics 200, 201, 310; either 311 or 320; one of the following: Economics 313, 360, 361, 368; and at least two upper division electives, of which at least one is at the 400 level. 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.

#### Minor in Business Economics (code 0-2775)

The minor in business economics is equally suitable for students pursuing baccalaureate degrees in non-business and business fields. The minor provides students with a strong concentration in the techniques of economic analysis most closely related to business decision-making. A minimum of 24 units which must include:

*Lower Division:* Accounting 202 or Mathematics 115B or a departmentally approved computer science course; Economics 200, 201. (Under certain circumstances the student who declares business economics as a minor in upper division status, may, with departmental consent, substitute Economics 300 for Economics 200 and 201.)

*Upper Division:* Economics 310 or 333, 311 or 320, and any three of the following: Economics 380, 420, 430, 432.

#### Master of Arts Degree with a Major in Economics (code 5-8510)

##### Prerequisites

1. A bachelor's degree with a major in economics, *or*
2. A bachelor's degree with 24 units of upper division courses comparable to those required of a major in economics at this University. (Deficiencies will be determined by the Economics Department.)
3. A minimum undergraduate grade point average of 3.0 (B) in upper division economics courses. (A student who fails to meet this requirement may submit Graduate Record Examination scores on the verbal, quantitative and advanced economics sections, and petition the Economics Department for a waiver.)
4. Graduate students must consult with the graduate adviser for information concerning department procedures and for approval of their course of study before entering the master of arts program in economics.

##### Advancement to Candidacy

1. Satisfy the general requirements of the University for advancement to candidacy.

##### Requirements for the Master of Arts

1. Thirty units of upper division and graduate courses approved by the Economics Department (courses marked with an asterisk), of which 24 must be in economics with a minimum of 15 units in the 500 and/or 600 series. All students must develop two fields of concentration in economics, including economic theory (micro and macro).

2. Satisfactory completion of Economics 583
3. A comprehensive examination in economic theory and one other field of economics, or a comprehensive examination in economic theory and a thesis.

##### 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, Hayek, 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.

**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.

**\*420. Forecasting (3) S Faculty**

Prerequisite: Economics 311 or 320. Principles and methods of forecasting. Evaluation of the reliability of existing forecasting techniques. Also covers use of the macroeconomic model as a basis for forecasting and the role of forecasts and the role of forecasts in the formulation of national economic policy.

**\*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. Industrial Organization (3) F Cole, Powell**

Prerequisites: Economics 200 and 201, or 300. Exploration of corporate economics-structure, behavior and performance of the few large enterprises that originate ninety percent of the GNP of major industrial nations. Analysis of arguments for and against "big business." Implications of separation of management and ownership. The dilemma of economies of size versus competition: governmental attempts to solve the dilemma. Not open to students with credit in Economics 330.

**\*432. Economics of Business Regulation (3) S Cole, Rooney**

Prerequisites: Economics 200 and 201, or 300. The economics of "businesses affected with a public interest." Appraisal of governmental actions intended to promote competitive behavior through regulation. Contrast between the older regulation of market activity and the newer regulation of the conditions of production and consumption. Regulations affecting health, safety, environmental and employment conditions. Alternatives to regulation. 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. Urban and Regional Economics (3) F Segelhorst**

Prerequisites: Economics 200 and 201, or 300. Examines the location, spatial organization, economic adjustment and development of urban and metropolitan regions. 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) F, S 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) F, S Faculty**

Workings of the price system in the allocation of resources, and the determination of the level and fluctuations of aggregate economic activity, with special emphasis on the role of business enterprise in the economy. Analysis of the economic implications of various forms of industrial organization and the application of public policy to business activity, including antitrust policy and regulation. Not open to students majoring in economics.

**510. Advanced Microeconomics (3) F Faculty**

Prerequisites: Economics 310; consent of instructor. Applications of microeconomic theory. Detailed examination and analysis of particular markets and contemporary issues in light of economic theory. Specific emphasis on policy analysis for government and business decisions.

**511. Advanced Macroeconomics and Forecasting (3) S Faculty**

Prerequisites: Economics 311, consent of instructor. Applications of macroeconomics, monetary and forecasting theory to operational management and planning decisions of government and business.

**583. Mathematical Economics (3) F Glezakos**

Prerequisites: Economics 310, 311, Mathematics 115 or consent of instructor. Applications of calculus, linear algebra and other mathematical tools in formulating and solving economic problems. Not open to students with credit in Economics 483.

**597. Directed Studies (1-3) F, S Faculty**

Prerequisite: Consent of instructor. Intensive reading and/or practical research in economics.

**630. Seminar in Industrial Organization and Economic Policy (3) F Cole, Powell**

Prerequisites: Economics 310, 430, consent of instructor. Advanced topics in government regulation of industry.

**636. Seminar in Urban and Regional Economics (3) S Segelhorst**

Prerequisites: Economics 437, consent of instructor. Applications of analytical tools to selected topics and problems in urban regional economics and finance.

**640. Seminar in Labor Economics (3) F Anderson**

Prerequisites: Economics 441, consent of instructor. Selected topics in the economics of labor markets and industrial relations.

**645. Seminar in Health Economics (3) S Larmore**

Prerequisite: Economics 445 or consent of instructor. Economic theory and institutional features of health care facilities, services and manpower. Emphasis on cost containment and health planning.

**650. Seminar in Public Finance (3) F Segelhorst**

Prerequisites: Economics 450 or 451 and consent of instructor. Selected topics in the theory of public finance: theories of budgetary policy, tax justice, shifting and incidence, other effects of taxation, fiscal policy.

**665. Seminar in Economic Development (3) S Farrell**

Prerequisites: Economics 365, consent of instructor. Selected topics dealing with economic development, with special emphasis on problems of underdeveloped countries.

**670. Seminar in International Trade and Development (3) F Farrell, Ishimine**

Prerequisite: Economics 471 or 465 or consent of instructor. Selected topics dealing with current problems and solutions in international trade, finance and development.

**686. Seminar in Econometrics (3) S Glezakos**

Prerequisites: Economics 486, 583, or consent of instructor. Development of methods for the estimation and testing of the relationships among economic variables and use of econometric models for prediction and economic policy purposes.



**697. Directed Research (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Independent research under the guidance of a faculty member.

**698. Thesis (2-6) F,S Faculty**

Prerequisite: Consent of faculty adviser. Planning, preparation and completion of a thesis related to a field in economics.

# Education

## School of Education

**Dean:** Dr. John A. Nelson, Jr.

**Associate Dean, Graduate Studies and Research:** Dr. Joan J. Michael.

**Director of Support Services and Planning:** Mr. John A. McAnlis.

**Supervisor/Adviser, Educational Placement:** Ms. Norie Zahn.

**Adviser, Educational Placement:** Dr. Tom Shaw.

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, other educational agencies and programs for training program developers and instructors in business, industrial, health and governmental areas.

Descriptions of credential programs appear in the *Credential Advisement Handbook*.

### Professional Programs in Education

Program	Department	Office
Multiple Subjects Credential Program (elementary teachers)	Teacher Education	ED1-13
Single Subjects Credential Program (secondary teachers)	University Single Subject Teacher Education	ED1-51
Bilingual/Cross Cultural Specialist Credential	Teacher Education	ED1-13
Early Childhood Specialist Credential	Teacher Education	ED1-13
Reading Specialist Credential	Teacher Education	ED1-13
Special Education Specialist Credential (Learning Handicapped, Severely Handicapped, Gifted) (Communication Handicapped offered through the Communicative Disorders Department)	Educational Psychology and Administration	ED1-10

Clinical Rehabilitative Services Credential (Language, Speech and Hearing, and Audiology and Special Class Authorization for Severe Language Handicapped and/or Aphasic Pupils)	Communicative Disorders	LAB-112
Administrative Services Credential	Educational Psychology and Administration	ED1-10
Library Services Credential	Instructional Media	LA1-209
Pupil Personnel Services and School Psychologist Credential	Educational Psychology and Administration	ED1-10
Designated Subjects Credential	Vocational Education	IT-218
Health Services Credential (School Nurse)	Nursing	Nursing 42
Instructional Media Certificate Program	Instructional Media	LA1-209
Career Guidance Certificate Program	Educational Psychology and Administration	ED1-10

Specific program information for all credentials is available through departmental offices or the School of Education Credentials Office.

#### Scholarships

Several scholarships are available to students enrolled in the School of Education. For candidates in the student personnel services program the *Clyde Sanfred Johnson Memorial Scholarship Fund*, established in 1970 as a tribute to Dr. Johnson, a long time member of the faculty of the School of Education, provides monies for scholarships to be awarded annually by the Department of Educational Psychology and Administration to graduate students enrolled in the student personnel services program on the basis of scholarship, leadership, which includes personal characteristics, and need. Also for graduate students in the pupil personnel area, the *William H. McCreary Scholarship* 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. This scholarship is awarded on the basis of need, academic record, and activities on and off campus in counseling related areas.

For prospective elementary school teachers, the *Sam Pollach Memorial Scholarship* has been established as a tribute to Dr. Pollach, a long time member of the Department of Teacher Education.

#### Office of Educational Placement

Located in the School of Education, Educational Placement assists students and alumni in their search for teaching positions and helps employers in education locate qualified candidates for professional positions. The Educational Placement Office serves the placement needs of students currently enrolled in student teaching and provides services to students and alumni seeking positions as administrators, counselors, college instructors, librarians, and school psychologists.

To fully utilize Educational Placement services, student teachers in Elementary, Secondary or Special Education should establish a placement file, attend an orientation meeting and arrange for an individual appointment with an Educational Placement adviser. All other candidates should register with the office just prior to graduation and/or completion of an advanced credential.

Services offered by the Office of Educational Placement include maintaining, duplicating, and mailing professional placement files, posting written job vacancy notices, conducting workshops, individual advisement and providing information about professional educational opportunities. Limited services are provided to undergraduates; appointments may be scheduled with an Educational Placement adviser to obtain information about the current job market within the field of education.

The office is located in ED1 Room 17 and is open 8 a.m. to 6 p.m. (Friday 8 a.m. to 5 p.m.) Phone - 498-5772.

Those students interested in teacher aide jobs should contact the Student Employment Office.

#### Master's Degree Programs

Admission to the master's degree program is through the Office of Graduate Studies and Research within the School of Education, and materials explaining respective degree programs are available there. Students should consult with faculty in the various departments concerning particular programs.

All master's degree candidates in education are required to complete either a thesis or take a comprehensive examination in the area of their degree emphasis. For students working toward the M.S. in counseling the thesis is required.

Application for admission in a master's degree program must be made by November 15 for the spring semester or by June 1 for the fall semester; application for enrollment for thesis or comprehensives must be made by November 15 for the spring semester or by April 15 for the fall semester or summer session.

#### Admissions to Graduate Program (Master of Arts in Education, Master of Science in Counseling, Master of Science in Special Education):

To be eligible for admission to the respective School of Education Master's Degree programs, applicants must meet the following grade point average (gpa) requirements:

**Clear Admission** — To be eligible for clear admission to the School of Education, applicants must have a gpa of 2.75 or higher on all course work taken for the bachelor's degree, or a gpa of 3.00 or higher on all coursework taken beyond the completion of the first 60 units and on all course work taken as a graduate student.

**Conditional Admission** — If applicants do not meet the gpa requirements for clear admission, they may qualify by earning a minimum of 3.00 on 15 units of upper division course work in Education taken as a graduate student at CSULB. This course work must be planned in consultation with a faculty member in the department or area of emphasis.

To be eligible for advancement to candidacy, applicants must take the following tests:

**Graduate Writing Proficiency Examination (GWPE)** — By University regulation, all applicants must pass the GWPE prior to advancement to candidacy.

**Undergraduate Record Examination (URE)** — Prior to advancement to candidacy, all applicants must take the URE (1) Aptitude Test (Verbal and Quantitative) and (2) the Advanced Education Test. (Note: students seeking the M.S. in Counseling are required to take ONLY the Aptitude Test.) Students whose scores on these tests fall below the 25th percentile are required to work with their respective advisors to plan additional course work which will assist them in the areas in which they have scored below the minimum. (Note: the Graduate Record Examination (GRE) may be substituted for the URE.)

Students should contact the School of Education, Office of Graduate Studies and Research, and the department of their degree or credential emphasis for current information on any recent changes in requirements and programs.

**Master of Arts Degree with a Major in Education****Prerequisites**

A bachelor's degree with a minimum of 15 units of approved upper division education courses or equivalents as follows:

Educational Administration (code 5-3103): 15 units;

Educational Psychology (code 5-3158): Educational Psychology 301 or 302 or an upper division course in child psychology not taken in the School of Education; Educational Psychology 305, 419 or an equivalent introductory course in statistics, 420 or a course in psychological testing, 470 or 480;

Elementary Education (code 5-3110): 15 units to include Elementary Education 440, 450, 460, 470, and 481 or equivalents; for the Early Childhood Education Option Educational Psychology 301, Elementary Educational 420, 422, 450, 460 and 481 or equivalents.

Instructional Media (code 5-3150): 15 units; for Library Media Option Library Education 411, 412, 420, Instructional Media 300, 410, and one of the following: Elementary Education 430 or Educational Psychology 485;

Secondary Education (code 5-3140): Bachelor's degree with basic California Teaching Credential;

Social Foundations of Education (code 5-3162): 15 units including Elementary Education 310 or Secondary Education 310, Educational Psychology 301 or 302, experience suitable to a social foundations program, such as teaching experience, VISTA, Peace Corps, social work or an undergraduate major in social science or humanities.

**Advancement to Candidacy**

1. Students must satisfy the general University requirements for advancement to candidacy as well as special requirements specific to the area of study.
2. Prerequisites and testing must have been completed, an approved program of studies must have been filed with the School of Education Office of Graduate Studies and Research and the student must be currently enrolled.

**Requirements for the Master of Arts**

1. Completion of 30-36 units of approved upper division and graduate courses with a minimum of 15-18 units of 500/600 level courses in education.
2. A thesis or successful completion of a comprehensive examination as required by the appropriate department.
3. Completion of the following courses appropriate to the area of emphasis, the specialization and the option:

**Educational Administration:** Educational Administration 541, 544, 580, 647, 649, 680 and either 651 or 661; one from each of the following: (1) Educational Psychology 420, 470, or 480; (2) Educational Psychology 500, 520 or 696; (3) Educational Psychology 575, 582, 604, 605, 677, or 680; and (4) Educational Administration 697 or 698;

**Educational Psychology:** Educational Psychology 519, 520, 604, 605, 698 and five courses from among the following according to specialization, i.e.:

Measurement and Research/Assessment: Educational Psychology 525, 526, 697; Instructional Media 440;

Child Development/Experimental Child Psychology: Educational Psychology 350, 451, 485, 560;

Learning Theory/Principles of Educational Remediation: Educational Psychology 405, 451, 527, 554A,B; Instructional Media 411; and electives to total 30 units;

**Elementary Education:** one course from the following: Educational Psychology 420, 470, 480, Elementary Education 421, 430, or 451 (EI.Ed. 421 and 430 are both required for the Early Childhood Specialization); one from the following: Educational Psychology 575, 582, 604, 605, 677, 680, or Elemen-

tary Education 655 (Ed. Psych. 604 required for Early Childhood Specialization); one of the following: Educational Psychology 500 or 696; one of the following: Elementary Education 695 or 698; and the following according to specialization, i.e.,

Curriculum and Instruction: all of the following: Elementary Education 550, 560, and 540 or 570; electives to total 30 units with 18 units in the 500/600 level series.

Early Childhood Education: four courses selected from the following: Elementary Education 520, 522, 523, 621 and 681 (maximum 4 units); Elementary Reading: all of the following: Elementary Education 551, and 653 A,B; select from the following to total 30 units: Elementary Education 550, 553, 556, 558 or 655.

**Instructional Media:** Two courses selected from Educational Psychology 420, 470, 480, 485, Elementary Education 430 (only one of Educational Psychology 485 or Elementary Education 430 may be taken to fulfill this requirement); Educational Psychology 500 or 696 and Instructional Media 697 or 698; the following according to specialization, i.e.:

Media: Instructional Media 300; and Instructional Media 501 or Educational Psychology 305;

Production; Applied and Theoretical: Three or four courses selected from Instructional Media 410, 411, 510, 511, 512, 513; and three or four from Instructional Media 301, 440, 500, 501, 520, 540, 630, to total seven courses.

Library Media: Instructional Media 501, 510, 511, Library Education 510, 540, 550, 581 and electives to total 30 units selected from Radio-TV 400, Instructional Media 411, 440, 490, 500, 512, 513, 540, Library Education 490 and Educational Psychology 677;

**Secondary Education:** 30 units of upper division and graduate courses; 18 units must be in the 500/600 series taken at this University;

Curriculum, Evaluation and Instruction: one of the following: Educational Psychology 500 or 696; all of the following: Secondary Education 520, 540, and 560; one of the following: Secondary Education 695, 697, or 698; one of the following alternatives:

- (1) Two courses from the following: Educational Psychology 420, 470 and 480; one of the following: Educational Psychology 575, 582, 604, 605, 677, or 680;
- (2) 12 units of advanced coursework in the Single Subject area of concentration. The area of selection is limited to the areas identified as appropriate by the Commission for Teacher Preparation and Licensing; Instructional Media 300 or equivalent;

Electives chosen in consultation with an adviser to a total of 30 units;

Reading: One of the following: Educational Psychology 420, 470, 480, 485, Elementary Education 451; one of the following: Educational Psychology 500 or 696; one of the following: Secondary Education 520, 540, or 560; all of the following: Secondary Education 459, 555, 557, and 657; one of the following: Secondary Education 659 or 698; electives chosen from the following for a total of 30 units: Elementary Education 450, 556, 558, 655, English 482, or Library Education 412.

**Social Foundations:** Educational Psychology 470, 480, and 680; Educational Psychology 500 or 696, or 419, 420 and 520; Educational Psychology 697 or 698; and the following according to specialization, i.e.,

History and Philosophy of Education: Educational Psychology 550, 575, 677; two courses from Educational Sociology or Educational Research; and no more than 10 elective units from the History or Philosophy Departments;

Educational Sociology: Educational Psychology 485, 582, 585; two courses from History and Philosophy or Educational Research; and no more than 10 elective units from the Sociology or Anthropology Departments;



Educational Research; Educational Psychology 419, 420, 520; two courses from History and Philosophy of Education or Educational Sociology; and no more than 10 elective units from the Quantitative Systems or Mathematics Departments.

#### Master of Science Degree with a Major in Counseling (code 6-3165)

##### Prerequisites

A bachelor's degree with 24 units of upper division courses in the behavioral sciences approved by the Counselor Education Committee for each of the following areas of study (suggested courses in education noted in parentheses): Developmental (Educational Psychology 301 or 302); Educational Psychology (Educational Psychology 305); Behavior Dynamics (Educational Psychology 311); Individual Differences (Educational Psychology 350); Statistics and Measurement (Educational Psychology 419, 420); Counseling and Guidance (Educational Psychology 430). Other upper division courses may be substituted from the areas of psychology, sociology or anthropology (according to the specialization) if they satisfy the area definition.

##### Advancement to Candidacy

1. Students must satisfy the general University requirements for advancement to candidacy as well as special requirements specific to the area of study.
2. Prerequisites and testing must have been completed, an approved program of studies must have been filed with the School of Education Office of Graduate Studies and Research, and the student must be currently enrolled.

##### Requirements for the Master of Science

The student must complete a minimum of 36 units of upper division and graduate courses with a minimum of 15 units in the 500/600 series taken at this University including both of the following: Educational Psychology 532 and 533; one of the following: Educational Psychology 519, 520, or 696 (Educational Psychology 519 and 520 are required for the School Psychology Credential); both of the following: Educational Psychology 541 and 545; Educational Psychology 697 (only on approval of the Pupil Personnel Services Committee with a demonstration of substantial published research) or 698; completion of at least one of the following areas of specialization:

1. Elementary/Secondary Counseling and Guidance: one 500 level course and one 600 level course from the following: Educational Psychology 536, 537, 631, 632;
2. Student Personnel (College Level): all of the following: Educational Psychology 538, 539;
3. Career Specialist: all of the following: Educational Psychology 530, 531, and 537;

Suggested electives to complete 36 units (Other electives may be selected in consultation with an adviser): Educational Psychology 549, 555, 604 (Ryan School Psychology Credential), 605, 615, and 639.

#### Master of Science Degree with a Major in Special Education (code 6-3155)

##### Prerequisites

A bachelor's degree with at least 24 upper division units in the behavioral sciences or education, such as Educational Psychology 301 or 302, 305, 311, 350, 419, 420, 430 or courses substituted from the areas of Psychology, Sociology, Social Welfare, Anthropology, Social Ecology or similar behavioral sciences (according to specialization) selected in consultation with an adviser.

##### Advancement to Candidacy

1. Students must satisfy the general University requirements for advancement to candidacy as well as special requirements specific to the area of study.

2. Prerequisites and testing must have been completed, an approved program of studies must have been filed with the School of Education Office of Graduate Studies and Research, and the student must be currently enrolled.

##### Requirements for the Master of Science

1. Completion of Educational Psychology 535, 546, 550, 566 and 650 (core requirements).
2. Completion of one of the following: Educational Psychology 500, 519, 520, 696.
3. Satisfactory performance on a written comprehensive examination (Educational Psychology 697) or completion of a thesis (Educational Psychology 698). Educational Psychology 520 and 696 are strongly recommended for thesis option students.
4. Completion of electives to total 30 units selected in consultation with a faculty adviser in Special Education.

## Education — Single Subject Credential

University Coordinator: Mrs. Jean Conroy

The Single Subject Credential under the provisions of the Ryan Act will allow the holder to teach only a specific subject area, grade 12 and below. Single Subject instruction means the practice of assignment of teachers and students to specified subject matter courses, as is commonly practiced in California high schools and most California junior high and middle schools.

Presently 13 specific areas of specialization are offered at this University. General advisement may be obtained through the office the University Coordinator, Single Subject Teacher Education, or the office of the Chairman of the Department of Teacher Education. Students seeking credential information for a specific major or concerning a credential in a second single subject area should contact the adviser listed below.

*Art*, Dr. James Crafts; *English, (Literature, Language and Composition, Creative Writing, American Studies, Dance, Comparative Literature, Journalism, Radio-TV, Speech)* Dr. James Day or Dr. Jerry Sullivan; *Foreign Language, French*-Mr. Herbert Winter, *German*-Dr. Harvey Kendall, *Spanish*-Dr. Alfonso Archuleta; *History*, Dr. Irving Ahlquist; *Home Economics*, Mrs. Mabel Moore; *Industrial Education*, Dr. James Ryan; *Life Science*, Dr. William Ritz; *Mathematics*, Mr. Robert Froyd or Dr. Arthur Gittleman; *Music*, Dr. Robert Anderson; *Physical Education*, (Dance, Health Science) Dr. Tom Morgan, Ms. Barbara Franklin, Dr. Randy Sandefur; *Physical Science*, Dr. William Ritz; *Political Science* (Government) Dr. Irving Ahlquist; *Social Science*, (Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology) Dr. Irving Ahlquist.

The first required education course is EDSS 300-Preliminary Directed Field Experience. Candidates must take this course as a prerequisite to the remaining education sequence. Students must select the EDSS 300 section appropriate to the credential major. Applications to the Single Subject Teacher Education Program will be processed following satisfactory completion of EDSS 300. Students should consult a credential adviser for departmental and university requirements for admission.

EDSS 300 acquaints candidates with pupils, affords firsthand experience in the work that teachers do, serves as the vehicle for the evaluation and screening process which determines acceptance into the credential program, and assists the student to determine whether teaching is the desired career.

Students will select one of the following professional education programs. EDSS 300 and admission to the Single Subject Teacher Education Program are prerequisites to either of these programs.

*Sequential Course Program:* EDSS 300, EdSe 310, EdSe 421, EDSS 450, EdSe 457, and EDSS 470A & B, or EDSS 471A & B.

*Bilingual/Cross Cultural Program:* EDSS 300, EdSe 435, EdSe 436, EDSS 450, EdSe 457, EDSS 470A & B, or EDSS 471A & B.

#### **Additional Courses Required Prior To Final Directed Field Experience (Student Teaching)**

These two courses may be taken concurrently with EDSS 300:

1. Health Science 411,
2. English Writing Requirement, English 300, 310 or 317, or pass the Graduation Writing Proficiency Examination (English majors must take 310). Transfer students with B.A. degrees must pass the Graduation Writing Proficiency Examination. Effective Fall 1981 all students must pass the Graduation Writing Proficiency Examination.

Requirements for the Preliminary Credential include completion of the following: a bachelor's degree, the U.S. Constitution requirement, the Health Science requirement, the English writing requirement, a single subject program, one of the professional education sequences, and student teaching.

#### **300A-W. Preliminary Directed Field Experiences (2) F, S Faculty**

Prerequisite: Advanced sophomore or junior standing. Directed field experience as a teacher aide. Evaluation of students for admission to the Single Subject Teacher Education Program 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.) CR/NC only.

- 300A. Preliminary Directed Field Experience (Art) (2) F Faculty  
 300C. Preliminary Directed Field Experience (Life and Physical Sciences) (2) F Faculty  
 300F. Preliminary Directed Field Experience (Foreign Languages-French, German, Spanish) (2) F Faculty  
 300G. Preliminary Directed Field Experience (English: Literature, Language and Composition, Creative Writing, Comparative Literature, Journalism, Speech, American Studies, Radio-Television and Dance) (2) F, S Brekke, Day  
 300H. Preliminary Directed Field Experience (Home Economics) (2) S Moore  
 300I. Preliminary Directed Field Experience (Industrial Education) (2) F, S Patcha  
 300M. Preliminary Directed Field Experience (Mathematics) (2) F Conroy  
 300N. Preliminary Directed Field Experience (Music) (2) F, S Anderson  
 300P. Preliminary Directed Field Experience (Physical Education-Track I, Dance, Health Science) (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, Health Science) (2) F, S Baker, Franklin

#### **\*450A. Curriculum and Methods of Art Education (3) S Faculty**

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) S Ritz**

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) 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.

#### **\*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 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 Faculty**

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) S 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. Curriculum and Methods in Teaching 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 (3) F, S Bartlett, Franklin, Morgan**

Prerequisite: Admission to the Single Subject Credential Program. Limited to students qualified to enroll in student teaching the following semester. Curriculum, legal aspects, methods and materials used in teaching physical education. Students are assigned to physical education activity classes as cadet teachers, in addition to classroom lectures. Students must meet minimum skill performance standards where appropriate. Not open to students with credit in EDSS 450W. (Lecture 2 hours, cadet teaching 2 hours.)

#### **\*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. Must be taken prior to student teaching.

**470A-B. Final Directed Field Experience (5,5) F,S Conroy**

Prerequisite: Acceptance of the student by the University Single Subject Teacher Education Committee for student teaching for the Single Subject Credential and permission of the Single Subject Credential adviser. Only students who will have assignments to teach concurrently at two different schools or assignments to teach concurrently in two different single subject areas or who will have two different university supervisors should register for 470A-B. Students will teach three regular classes daily for which they have as complete responsibility as district policy will allow. For an additional two periods daily the students will engage in faculty enterprises and consult with school and University supervisors. CR/NC only.

**471A-B. Final Directed Field Experience (5,5) F,S Conroy**

Prerequisites: Acceptance of the student by the University Single Subject Teacher Education Committee for student teaching for the Single Subject Credential and permission of the Single Subject Credential adviser. Only those students whose student teaching assignment does not follow the pattern requiring them to enroll in 470A-B should enroll in 471A-B. Students will teach three regular classes daily for which they have as complete responsibility as district policy will allow. For an additional two periods daily the student will engage in faculty enterprises and consult with school and university supervisors. CR/NC only.

# Educational Psychology and Administration

## School of Education

**Department Chair:** Dr. Russel Orpet.

**Emeriti:** Evelyn L. Blackman, J. Wesley Bratton, Alexander L. Britton, Boyd A. Davis, Florence H. Forst, Alan J. Glasser, Ralph C. Graetz, Taylor T. Jackman, Aileen Poole Koehler, Roderick B. Peck, Henry R. Sehmman, Jess C. Shaver, Charles H. Tilden.

**Professors:** Blaylock, Cash, Crossan, Demos, Denham, Fogg, Hamel, Harris, Hunter, Kampwirth, Kokaska, Lazar, Michael, Nelson, Orpet, Owen, Revie, Sullivan, Swan, Williams.

**Associate Professors:** Gibbs, Haglund, Noble, Schmidt.

**Assistant Professors:** Graham, Maslow.

**Credential Program Coordinators:**

Administrative Services: Dr. Neil Sullivan.  
Pupil Personnel Services: Dr. Vicente Noble.  
School Psychologist: Dr. Vicente Noble.  
Special Education: Dr. Charles Kokaska.

**Graduate Degree Program Coordinators:**

**Counseling:** Dr. Vicente Noble.  
Educational Administration: Dr. Neil Sullivan.  
Educational Psychology: Dr. Alice Harris.  
Social Foundations: Dr. Albert Hamel.  
Special Education: Dr. Charles Kokaska.

For degree requirements see **Education**.

The Department of Educational Psychology and Administration offers upper division and graduate level course work in the following program areas: Educational Administration, Special Education, School Counseling, School Psychology, Educational Psychology, Historical, Philosophical and Social Foundations.

Also, the department offers a certificate as a Career Guidance Specialist and credentials in Administrative Services, Pupil Personnel Services — Counseling, School Psychologist, Learning Handicapped, Severely Handicapped and Gifted. Descriptions of credential programs appear in the *Credential Advisement Handbook*.



**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 program 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.

- Mr. David Burcham, Activities Specialist, Long Beach Unified School District
- Mr. Carl Cohn, Administrative Consultant, Long Beach
- Mr. George Dominguez, Principal, Juarez Elementary School
- Mrs. Doris J. Grant, Principal, Roosevelt Junior High School
- Mr. Francis Hall, Administrative Assistant, Markham Junior High School
- Ms. Barbara Hahn, Director SP, Alvord Unified School District
- Ms. Beverly Hoover, Principal, Ethan Allen Elementary School
- Mr. William Hutton, Principal, Will Reid High School
- Ms. Marilyn Koeller, Principal, Vista View Elementary School
- Mr. William Lane, Director of Magnet School Program, Los Angeles Unified School District
- Mr. Jewell Lee, Director, Certificated Personnel, Lynwood Unified School District
- Dr. Peter Luna, Director of Academic Affairs, Rio Hondo Community College
- Mr. Peter Parra, Coordinator of Certificated Personnel, Montebello Unified School District
- Mrs. Christine Pugh, Principal, Riley Elementary School
- Mr. Dan Thomas, Principal, Basics Plus Elementary School
- Mr. James Turner, Principal, Foothill High School
- Mr. Alfred Valdez, Student, CSULB

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**Pupil Personnel Advisory Council**

The advisory council for the approved program in counseling and/or school psychology is composed of school board members, community leaders, supervisors, school psychologists and counselors, alumni, and currently enrolled students. 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.

- Mr. Ralph Anaya, School Principal
- Ms. Marcella Cardinale, Community Leader
- Mr. Michael Cue, Student, CSULB
- Dr. Steve Eimers, School Psychologist, Alumni
- Mr. Fred Ghio, Community Leader
- Ms. Sue Hensel, School Counselor, Alumni
- Mr. Ruben Hernandez, School Psychologist
- Mr. Jim Himes, Student, CSULB
- Ms. Dominique Jagosz, School Psychologist, Alumni
- Mr. Glenn Kawafuchi, School Counselor, Alumni
- Ms. Christina Mascorro, Bilingual Counselor
- Mr. Royal Morales, Div. Asian-American Committee, Mental Health
- Mr. Frank Parades, School Counselor
- Ms. Darien Weissenberger, School Counselor
- Dr. Felton Williams, President, NAACP, Former Faculty, CSULB

**Special Education Advisory Committee**

The Community Advisory Committee provides suggestions for informational and instructional content that can be added to program courses in order to keep faculty and students abreast of relevant changes in the education/services for handicapped and gifted individuals. Committee members represent exceptional individuals, minority groups, parents of exceptional individuals, teachers, administrators, and University alumni.

- Mr. Robert Armor, Coordinator-Special Education, Paramount Unified School District.
- Mr. Larry Belkin, Coordinator-Severely Handicapped Programs, Orange County Dept. of Education
- Mrs. Annetta Daily, Huntington Beach, Parent
- Ms. Marilyn Gilbert, Long Beach, Alumni
- Mrs. Gloria Morrissey, Assistant Director-Special Education, Long Beach Unified School District
- Ms. Pamela Patterson, Huntington Beach, Student
- Mrs. Rosemary Varela, Wilmington, Alumni
- Mrs. Louise Weinberg, Long Beach, Parent

**Educational Administration****Graduate Division****541. Principles and Leadership in School Administration (3) F,S Graham, Sullivan**

Prerequisite: A valid regular teaching credential or 15 upper division or graduate units in education. Basic principles of school administration and federal, state, county and local school administration relationships are studied. Stress is placed upon the concepts and techniques of leadership as they relate to educational administration.

**544. Legal and Financial Aspects of Schools (3) F,S Williams**

Prerequisite: Ed. Admin. 541. Consideration of the law and public education, of school revenues, apportionments, budgetary procedures and cost accounting. Not open to students with credit in Ed. Admin. 543 and 545.

**580. Introduction to Field Experience in Administration (3) F,S Sullivan**

Prerequisite: Approval by the Department of Educational Administration. Written application should be made by October 1 for the spring semester and March 1 for the fall semester. The first of two on-the-job experiences involving the student in the solution of problems in administration and supervision at the elementary and secondary levels. Not open to students with credit in Ed. Admin. 681.

**590. Special Problems in Educational Administration (1-3) F,S Sullivan**

Prerequisite: Enrollment limited to graduate students who hold a standard teaching credential and have consent of instructor. Advanced study in educational administration within an area of specialization done on experimental, research and/or seminar basis. The area will be designated by the department at the time the course is scheduled. A student may enroll for one-three units to a maximum of six units for certificate and degree purposes, subject to suitable change in course content. Non-degree and non-certificate students may enroll for additional units to suitable change in course content.

**647. Seminar in School Personnel Administration and Leadership Behavior (3) F,S Williams**

Prerequisite: Ed. Admin. 541. Advanced study and research into the areas relating to the role and function of educational management and leadership and the planning, organizing, staffing, directing and expediting of the personnel function.

**648. Seminar in Systems Approach and Educational Management (3) F,S Sullivan**

Prerequisites: Ed. Admin. 541, 544. Advanced study in educational administration done on a seminar basis.

**649. Seminar in Urban Educational Administration (3) F,S Graham**

Prerequisites: Ed. Admin. 541, 544. Consideration of problems plaguing the urban school system.

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**651. Seminar in Administration and Supervision of Elementary Schools (3) F,S Faculty**

Prerequisite: Ed. Admin. 541. Advanced study and research in school organization, administration, curriculum development, together with administration, evaluation and supervision of instruction. Not open to students with credit in Ed. Admin. 551 and 553.

**661. Seminar in Administration and Supervision of Secondary Schools (3) F,S Williams**

Prerequisite: Ed. Admin. 541. Advanced study and research into the factors involved in the administration and supervision of a modern secondary school, along with an analysis of emerging designs in administrative theory and practice. Not open to students with credit in Ed. Admin. 561 and 563.

**680. Advanced Field Experience in Administration (3) F,S Sullivan**

Prerequisites: Ed. Admin. 541, approval by the Department of Educational Administration, successful completion of Ed. Admin. 580. Application should be made by March 1 for the fall semester and October 1 for the spring semester. This is the second of two on-the-job experiences involving the student in the solution of problems in administration and supervision at the elementary and secondary levels. Not open to students with credit in Ed. Admin. 682.

**683. Field Work in Administration and Supervision of the Community College (3) F,S Faculty**

Prerequisite: Approval by the Department of Educational Administration. Written application should be made by October 1 for the spring semester and March 1 for the fall semester. On-the-job participation in the solution of problems in administration and supervision. Final course in the professional preparation sequence; individual conferences arranged. May be repeated for a maximum of six units.

**697. Directed Research (1-3) F,S Faculty**

Prerequisites: Consent of instructor, department chair and associate dean. Individual research or intensive study under the guidance of a faculty member. A student may enroll for one-three units to a maximum of three units for certificate and degree purposes, subject to suitable change in course content. Application for enrollment must be made by April 15 for the fall semester or by November 15 for the spring semester.

**698. Thesis (1-6) F,S Faculty**

Prerequisites: Advancement to candidacy, Ed. Psych. 696, approval by director, department chair and associate dean, Planning, preparation and completion of a thesis under supervision of a faculty committee. Must be taken for a minimum of four units. Application for enrollment must be made by April 15 for the fall semester or by November 15 for the spring semester.

**Educational Psychology****Lower Division****190. Current Topics in Education (1-3) 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 under different topics for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

**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 Kokaska, Faculty**

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 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. CR/NC only.

**390. Current Topics in Education (1-3) 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 under different topics for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

**\*391. Career and Personal Explorations (3) F,S Faculty**

Designed for, but not restricted to, transfer students and upper division 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. (Lecture 2 hours, arranged field experience 5 hours.)

**\*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 (2-4) 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. Didactic and experiential learning approaches. 434A. (2), 434B. (3), 434C. (4)

**\*451. Learning Disabilities in Exceptional Individuals (3) F, S Kampwirth, Lazar, Maslow**

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 Koppenhaver, 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) S Koppenhaver, 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 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 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.

**\*470. History and Philosophy of Education (3) F 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) 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 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,F. 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-assessment and professional improvement.

486A. Advanced Field Studies with Communication Handicapped (5,5) F,S

486B. Advanced Field Studies with Learning Handicapped (10) F,S (5) S,S

486C. Advanced Field Studies with Severely Handicapped (10) F,S (5) S,S

486D. Advanced Field Studies with the Gifted (10) F,S (5) S,S

486F. Advanced Field Studies with the Severe Language Handicapped/Aphasia Classroom (5,5) F,S

**\*490. Special Topics in Educational Psychology (1-6) F,S 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. May be repeated for credit to a maximum of six units, with no more than three units applicable to credential or major requirement.

**Graduate Division****500. Educational Research (3) F,S Faculty**

Meaning, types and applications of educational research, use of research resources and critiques of research studies. Should be taken early in a master's degree program. Open only to students taking comprehensive examinations. Not open to students with credit in Educational Research 500.

**519. Advanced Educational Statistics (3) F,S Faculty**

Prerequisite: Ed. Psych. 419. Principles of statistical analysis, with emphasis on sampling procedures, hypothesis testing, experimental design and correlational techniques. Not open to students with credit in Educational Research 519.

**520. Educational Measurement and Research (3) F,S Faculty**

Prerequisites: Ed. Psych. 419, 420. Principles of design, methodology, measurement and inference in research design as applied to the planning, execution and evaluation of educational research studies. Strongly recommended prior to thesis work.

**525. Individual Pupil Diagnosis (3) F Faculty**

Prerequisites: Psychology 574. Administration and interpretation of diagnostic devices including tests used in the diagnosis of clinical and learning difficulties; preparation of complete case studies.

**526. Educational Diagnosis (3) S Kampwirth**

Prerequisite: Ed. Psych. 525. Theory and practice of individual diagnostic and clinical procedures for the differential diagnosis of educational problems; application of diagnostic findings in the development of educational programs for individual children. (Same practical application will take place in the schools.)

**527. Clinical Practice in Child Diagnosis (3) F Faculty**

Prerequisite: Ed. Psych. 526. Diagnostic techniques with exceptional children children, particularly children with lesser-incidence exceptionalities. Discussion and practice of school based consultation techniques.

**530. Career Development and Decision Theory (3) F Swan**

Prerequisite: Ed. Psych. 531 (must be taken concurrently) or consent of instructor. Emphasis on life planning concepts as related to the world of work, theories of career development and the career decision process.

**531. Career Education Information Resources and Technology (3) F Faculty**

Prerequisites: Ed. Psych. 530 (must be taken concurrently). Knowledge, use and management of information resources in career education.

**532. Group Counseling (3) F,S Cash**

Prerequisites: Ed. Psych. 533, 631 or 632 or 539 and consent of instructor. Theory and application of small group processes in guidance and counseling, laboratory practice in selection of participants, leadership, interaction methods, problem solving and evaluation. (Lecture-discussion 3 hours.)

**533. Counseling Theory (3) F,S Noble**

Prerequisites: Ed. Psych. 311, 430. Major approaches and issues and techniques for counseling in the schools. Major counseling theories examined and the competencies of each developed for use in helping relationships.

**535. Counseling and Guidance for the Handicapped (3) F,S Faculty**

Prerequisites: Ed. Psych. 305, 350, 430 and consent of instructor. Educational and vocational needs of handicapped children; methods of counseling; rehabilitation and guidance programs. Not open to students with credit in Educational Psychology 435.

**536. Guidance Practices in the Schools (3) S Swan**

Prerequisites: Ed. Psych. 533 or consent of instructor. Emphasis on effective education at the elementary level, including career education concepts of self-awareness and career awareness. References to secondary practices are included.

**537. Career Guidance Practices in the School (3) F,S Swan**

Prerequisites: Ed. Psych. 632 or 539 or consent of instructor. Emphasis on career assessment and counseling at the secondary and post-secondary levels with reference to elementary level practices.

**538. Student Personnel Work in Higher Education (3) F Faculty**

Prerequisite: Consent of instructor. Student services in junior and senior colleges, technical institutes and universities; component services, legal and philosophical basis, organization and functions.

**539. Counseling the College Student (3) S Demos**

Prerequisite: Ed. Psych. 533, consent of instructor. Theory and practice of counseling and guidance of the college student.

**541. General Case Practice and Field Work (3) F,S Noble, Swan**

Prerequisites: Ed. Psych. 305, 311, 350, 419, 420, 430, 301 or 302 or all of aforementioned equivalents; 631 or 632 or 539; 533; consent of Pupil Personnel Services Committee. Application for field work should be made no later than March 1 for the following summer/fall semester and October 1 for the following spring semester. Practical experiences with school age persons in an appropriate setting.

**545. Pupil Personnel Practicum (3) F,S Noble, Swan**

Prerequisites: Ed. Psych. 541, 532, 536 or 537 or 538 and consent of Pupil Personnel Services Committee. Application should be made by March 1 for the fall semester and October 1 for the spring semester. Continued supervised Pupil Personnel Services experiences with school age children and/adults under licensed/credentialed persons; interviewing, counseling, evaluation or remediation.

**546A-B. Practicum in Special Education (3,3) F,S Faculty**

Prerequisites: Ed. Psych. 350 and consent of Special Education Committee. Supervised experience with exceptional children in schools, clinics, hospitals, workshops and residential settings; assessment, identification and remediation of learning disabilities. Application should be made by March 1 for the fall semester and October 1 for the spring semester.

**549. Management of Student Personnel Services (3) S Faculty**

Prerequisite: Consent of instructor. Psychological techniques for improving managerial and organizational effectiveness of student personnel services in higher education.

**550. Cultural Perspectives of Special Education (3) F Faculty**

Prerequisites: Ed. Psych. 350, 480. Social, philosophical and historical foundations of special and compensatory education. Not open to students with credit in Educational Foundations 550.

**554A-B. Principles of Educational Remediation (3,3) F,S Faculty**

Prerequisites: Ed. Psych. 451 and consent of instructor. Special curriculum needs of exceptional children; strategies in meeting special problems; emphasis on implementing research in a classroom.

**555. Education and Counseling in a Cross-Cultural Setting (3) F,S Faculty**

Examination of discriminatory attitudes and practices and their historical antecedents. Problems of minority students in a school setting. Two additional hours per week for field observation.

**560. Management of Emotionally Handicapped Child (3) S Faculty**

Prerequisites: Ed. Psych. 311, 604. Etiology of disturbed emotional behavior in the pre-school and school-age child, management of such children in school and home.

**566. Career Planning for the Exceptional Individual (3) S Kokaska**

Prerequisite: Ed. Psych 350 or consent of instructor. Review of the career, leisure time, adult, family and community needs and problems of the exceptional individual. Emphasis will be upon the cooperative role of the school, public and

private community agencies and organizations including parent groups and associations comprised of exceptional (handicapped, disabled or gifted) individuals. Not open to students with credit in Educational Psychology 466.

**575. Philosophy of Education (3) S Faculty**

Prerequisite: Ed. Psych. 470. Examination and evaluation of major contemporary education philosophies. Not open to students with credit in Educational Foundations 575.

**582. Comparative Education (3) F Faculty**

Comparative study of present educational systems, educational problems and policies, in selected regions of the contemporary world. Not open to students with credit in Educational Foundations 582.

**585. Group Processes in Education (3) S Faculty**

Recent findings regarding behavior of human beings in group situations; application to methods of instruction, school activities and services. Not open to students with credit in Educational Foundations 585.

**590. Special Problems in Educational Psychology (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Advanced study of special topics and problems in educational psychology. A student may enroll for one-three units to a maximum of six units for certificate and degree purposes, subject to suitable change in course content. Non-degree and non-certificate students may enroll for additional units subject to suitable change in course content.

**604. Seminar in Human Development (3) F,S Faculty**

Prerequisites: Ed. Psych. 301 or 302, and 419, 420. Theories and issues in developmental psychology. Cognitive, linguistic, perceptual, psychomotor, social and emotional development; nature-nurture and individual differences.

**605. Seminar in School Learning (3) F,S Faculty**

Prerequisites: Ed. Psych. 305, 419, 420. Research in the area of learning problems in the classroom; recent experimentation and theory in the field of educational psychology.

**615. Seminar in Home-School-Community Relations (3) F,S Faculty**

Prerequisite: Ed. Psych. 430. Theory and research into the social influence of home, school and community on child behavior; techniques to foster close home-school relations and use of community agencies.

**631. Seminar in Elementary School Counseling (3) F Faculty**

Prerequisites: Ed. Psych. 305, 430. Theory, research and techniques of elementary counseling with emphasis on elementary school counseling; use and analysis of case studies.

**632. Seminar in Secondary School Counseling (3) S Faculty**

Prerequisites: Ed. Psych. 430, 533. Research in and study of the techniques and tools used by the school counselor with emphasis at the secondary level; theory and practice in counseling, interviewing, group guidance and automated data processing.

**639. Seminar in Organization of Pupil Personnel Services (3) F,S Faculty**

Prerequisite: Ed. Psych. 430. Practices and problems in organizing, administering, supervising and evaluating pupil personnel programs at various educational levels.



**642A. Field Work-School Psychology (1-6) F,S Noble**

Prerequisites: Ed. Psych 541, 545, consent of Pupil Personnel Services Committee. Application for field work should be made by October 1 for spring semester or by March 1 for the summer or fall semester. Two units of field work is generally recommended per semester. Not open to students with credit in Ed. Psych. 542C. CR/NC only.

**642B. Field Work-Counseling (1-2) F,S Noble**

Prerequisites: Ed. Psych. 541, 545, consent of Pupil Personnel Services Committee. Application for field work should be made by October 1 for spring semester or by March 1 for the summer or fall semester. Each area of specialization may be taken for one or two units per semester for a maximum of four units total. Not open to students with credit in Ed. Psych. 542A. CR/NC only.

**650. Seminar in Special Education (3) S Faculty**

Prerequisites: Ed. Psych. 350 and consent of instructor. Studies of current problems and issues in special education relating research to practice in the areas of mentally exceptional children.

**677. Seminar in Curriculum Development (3) F Faculty**

Prerequisites: Ed. Psych. 470 or 575 and 480 or 680. Psychological, sociological and philosophical foundations of principles of curriculum patterns and development at both elementary and secondary levels. Not open to students with credit in Educational Foundations 677.

**680. Seminar in Current Problems and Issues in Education (3) F,S Faculty**

Prerequisite: Ed. Psych. 500 or 696. Current developments in education; problems and issues in classroom teaching and school administration. Not open to students with credit in Educational Foundations 680.

**696. Thesis Study: Methodology, Organizational and Research Aspects (3) F,S Faculty**

Prerequisite: Ed. Psych. 419. Analysis and definition of problems in education in the context of thesis research. Reference techniques and survey of literature, research design and procedure, data analysis and inference, interpretation and generalization of research findings. Designed for students planning to do a thesis. No work on a thesis may be done in this course. Thesis work must be initiated and completed in 698 only.

**697. Directed Research (1-3) F,S Faculty**

Prerequisites: Consent of instructor, department chair and associate dean. Individual research or intensive study under the guidance of a faculty member. A student may enroll for one-three units to a maximum of three units for certificate and degree purposes, subject to suitable change in course content. Application for enrollment must be made by April 15 for the fall semester or by November 15 for the spring semester.

**698. Thesis (1-6) F,S Faculty**

Prerequisites: Advancement to candidacy, Ed. Psych. 519 or 520 or 696, approval by director, department chair and associate dean. Planning, preparation and completion of a thesis under supervision of a faculty committee. Must be taken for a minimum of four units. Application for enrollment must be made by April 15 for the fall semester or by November 15 for the spring semester.

# Electrical Engineering

## School of Engineering

**Department Chair:** Dr. Gene H. Hostetter.

**Emeriti:** Guy Cain, L. Boyd Kendall, Rodney C. Lewis, Harold W. Washburn, Robert Winchell.

**Professors:** Hostetter, Houde, Jordanides, Lane, Lindquist, Paal, Schwartz, Stefani.

**Associate Professors:** Brodnax, Carissimo, Evans, Panagiotacopoulos, Savant.

**Assistant Professors:** Druzgalski, Wolf.

**Adjunct Professor of Ocean Engineering:** Willard Bascom.

**Adjunct Clinical Professor:** Irvin Unger.

**Undergraduate Adviser:** Dr. Raymond T. Stefani.

**Graduate Adviser:** Dr. Morton Schwartz.

**Graduate Committee:** Hostetter, Jordanides, Lane, Schwartz.

### Bachelor of Science Degree in Electrical Engineering

#### Biomedical and Clinical 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.

Pursuant to all-university requirements regarding grade point averages for graduation, a biomedical engineering student must achieve a minimum 2.0 average in all engineering courses. 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.



**Bachelor of Science Degree in Engineering****Ocean Engineering Option**

Administrative cognizance over the option in Ocean Engineering (code 3-4358) is transferred to the department of Mechanical Engineering.

**Bachelor of Science Degree in Engineering****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.

**Bachelor of Science Degree in Electrical Engineering**

The degree in electrical engineering is designed to prepare graduates for responsible engineering positions in design, development, research, applications and operation in the fields of circuit theory, communications, control systems, electromagnetics, electronic circuits, physical electronics and power. The curriculum is built around a strong basic core of mathematics, physics and engineering science. This is followed by basic courses in electrical engineering.

A wide choice of senior electives allows a comprehensive coverage of any of the above fields or a less comprehensive coverage of several fields. Some emphasis on computer software or computer hardware is also possible. For a greater coverage of those latter fields, the computer science and engineering degree is suggested.

Laboratory facilities are available in the engineering building and include basic as well as more advanced electronic laboratory instruction, control systems laboratory, electric machinery laboratory and digital computer systems.

Pursuant to all-university requirements regarding grade point averages for graduation, an electrical engineering student must achieve a minimum 2.0 average in all engineering courses. 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.

**Bachelor of Science Degree in Engineering****Computer Science and Engineering Option (code 3-4327)**

*Lower Division:* M.E. 101 or C.E. 101; M.E. 172; Chemistry 111A; Physics 151, 152; at least three units of a natural science course; Mathematics 122, 123, 224; E.E. 101, 140, 210, 241.

*Upper Division:* Economics 300; Mathematics 321, 345, 346A or 370A; E.E. 310, 340, 341, 345, 370, 370L, 440, 441, 442, 444, 445, 480, 494; approved electives to total a minimum of 132 units.

**Bachelor of Science Degree in Electrical Engineering (code 3-4330)**

*Lower Division:* M.E. 101 or C.E. 101; M.E. 172, 273; Mathematics 122, 123, 224; Chemistry 111A; Physics 151, 152; E.E. 101, 140, 210, 210L, 241. Three additional elective units in Natural Science.

*Upper Division:* Economics 300; Mathematics 370A; C.E. 406; M.E. 330, 371; E.E. 310, 320, 330, 330L, 341, 350, 350L, 370, 370L, 410 or 482, 433, 433L, 462, 480 or Mathematics 370B; approved electives to total a minimum of 132 units.

**Bachelor of Science Degree in Electrical Engineering****Biomedical and Clinical Engineering Option (code 3-4336)**

*Lower Division:* M.E. 101 or C.E. 101; M.E. 172, 273; Mathematics 122, 123, 224; Chemistry 111A; Physics 151, 152; E.E. 101, 140, 210, 210L, 241; Biology 208. Three additional elective units in natural science.

*Upper Division:* Economics 300; Mathematics 370A; C.E. 406; M.E. 330, 371; E.E. 310, 320, 330, 330L, 341, 350, 350L, 370, 370L, 406, 406L, 407, 410 or 482, 433, 433L, 462, 480 or Mathematics 370B; approved electives to total a minimum of 132 units.

**Certificate Program in Energy Conversion and Power Systems Engineering**

The 27-unit Certificate Program in Energy Conversion and Power Systems Engineering is an undergraduate program designed to prepare electrical and mechanical engineering students to become proficient in the analysis and design of power generating systems, such as direct conversion, coal burning, hydraulic, nuclear, solar, wind and various other types of power plants.

For certificate requirements see the Mechanical Engineering Department section of this *Bulletin*.

**Master of Science Degree in Electrical Engineering (code 6-4330)**

This program affords an opportunity for graduate electrical engineers to improve their competency in analysis and design to better meet the needs of local industry. This is accomplished with an integrated curriculum, including upper division mathematics and physics, advanced upper division engineering courses and graduate courses in electrical engineering analysis and design. A student may study automatic control theory, communication theory, electronics, computer engineering, electromagnetic theory, network theory, and biomedical engineering.

Some graduate laboratory and teaching assistantships are available to qualified graduate students. Applications should be sent to the department office.

**Prerequisites**

1. A bachelor's degree in an accredited curriculum in electrical engineering, or:
2. A bachelor's degree in engineering, a natural science or other appropriate discipline with the requirement that essential undergraduate prerequisites in electrical engineering be satisfied.
3. Graduate students must consult with the graduate adviser for information concerning procedures and requirements for appropriate approval of their course of study prior to enrolling in their graduate programs.

**Advancement to Candidacy**

1. Removal of all undergraduate deficiencies as determined by the Department Graduate Study Committee.
2. Students, at the discretion of the Department Graduate Study Committee, may be required to take examinations in their chosen area.

**Requirements for the Master of Science**

1. Completion of a minimum of 30 units beyond the bachelor's degree in upper division and graduate courses approved by the student's Department Graduate Study Committee. Students are allowed to elect one of the two options listed below.

## Option 1

EE 401 or 3 units of approved mathematics  
 EE 505  
 EE 500/600 (9 units)  
 EE 400/500/600 (9 units)  
 EE 697 (3 units)  
 EE 698 (3 units)  
 Oral defense of thesis

## Option 2

EE 401 or 3 units of approved mathematics  
 EE 505  
 EE 500 (15 units)  
 EE 400/500/600 (9 units)  
 Comprehensive Exam

## Lower Division

**101. Introduction to Electrical Engineering and Computer Science (3) F, S Lane, 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 2 hours.)

**210. Electric Circuits I (3) F, S Faculty**

Prerequisites or Co-requisites: Physics 152, Mathematics 224. Linear circuit analysis techniques including Kirchhoff's laws, network theorems, mesh and nodal analysis, Thevenin and Norton equivalents. Simple RL and RC circuits. Phasors, Balanced 3-phase systems and power. (Lecture-problems 3 hours.)

**210L. Electric Circuits I Laboratory (1) F, S Wolf**

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.)

## Upper Division

**310. Electric Circuits II (3) F, S Faculty**

Prerequisites: E.E. 210, 210L, Mathematics 370A. Continuation of circuit analysis including Fourier series, Fourier and Laplace transform techniques. (Lecture-problems 3 hours.)

**311. Electric Circuits and Electronics (3) F, S 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 153. Introduction to solid state electronic devices: diodes, transistors, lasers, micro-electronics. (Lecture-problems 3 hours.)

**330. Engineering Electronics I (3) F, S Savant, 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 Savant, Faculty**

Prerequisites: E.E. 210L; Pre or Co-requisite E.E. 330. Transistor circuit design laboratory. (Laboratory 3 hours.)

**340. Programming Languages and Systems I (3) F, S Carissimo, Faculty**

Prerequisite: E.E. 140. Basic digital computer structure. Introduction to machine and assembly language programming. Data structures including lists, trees, expression translation, searching and sorting. (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. Introduction to ECAP. (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. Design of systems with consideration of human factors. (Lecture-discussion 3 hours.)

**347. Computers in Decision-Making (3) S 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 Faculty**

Prerequisite: E.E. 210. Energy and society. Review of alternating current and three-phase concepts. Transformers. Energy conversion processes: electro-mechanical, solar, nuclear, geothermal. A look at the future. (Lecture-problems 3 hours.)

**350L. Energy Conversion Laboratory (1) F, S Faculty**

Co-requisite: E.E. 350. Laboratory study of electromechanical devices, transformers and rotating machinery. (Laboratory 3 hours.)

**370. Control Systems I (3) F, S Stefani, Faculty**

Prerequisite: E.E. 310. Principles of analysis, block diagrams, signal flow graphs, stability criteria, root loci, frequency domain analysis. Examples of classical control system design. Compensation (Lecture-problems 3 hours.)

**370L. Control Systems I Laboratory (1) F, S Savant, Faculty**

Prerequisite or co-requisite: E.E. 370. Analog computer study of systems. (Laboratory 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) F, S 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) S 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 Stefani, 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) F Houde, Faculty**

Prerequisite: E.E. 320 or M.E. 322. Co-requisite E.E. 420L. 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) F 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) S 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.)

**\*431. Engineering Digital Electronics (3) F, S Savant**

Prerequisite: E.E. 310, 330. Analysis and design of integrated digital circuits including TTL, CMOS, and MECL. (Lecture-problems 3 hours.)

**\*431L. Engineering Digital Electronics Laboratory (1) F, S Schwartz, Faculty**

Co-requisite: E.E. 431. Laboratory study of integrated digital circuits. (Laboratory 3 hours.)

**\*432. Linear Integrated Circuit Electronics (3) F Hostetter**

Prerequisites: E.E. 330, 330L, 370. Analysis and design of operational amplifiers and other linear integrated circuits and systems. (Lecture-problems 3 hours.)

**\*433. Engineering Electronics II (3) F, S Savant, 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, 140. Basic machine organization and architecture including studies of the arithmetic logic unit, the control unit, input-output processes, and memory 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) F, S Carissimo, Faculty**

Prerequisite: E.E. 340. Operating systems analysis and design. Advanced I/O programming. Memory management and CPU scheduling in a multiprogramming environment. (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. Microprocessors and Applications I (3) F, S Evans, Faculty**

Prerequisite: E.E. 101. Study of available microprocessors and microcomputer elements for applications of these devices to practical problems. Design of microprocessor based systems, including hardware and software details. (Lecture-problems, 3 hours.)

**\*446. Microprocessors and Applications II (3) F, S Evans, Faculty**

Prerequisite: E.E. 340, 445. Design of mainframe computers using microprocessors and other LSI components. Interaction of hardware and software design constraints. Advanced architectural concepts including I/O processors, multiple CPU's and cache memory. (Lecture-problems 3 hours.)

**\*452. Industrial Power Practices (3) F Faculty**

Prerequisites: E.E. 350, 350L. Electrical design. Illumination. Motor installation, protection and control. Power distribution apparatus and wiring systems. Plans and specifications. (Lecture-problems 3 hours.)

**\*452L. Power Systems Laboratory (1) F Faculty**

Advanced topics on electrical machinery. Motor characteristics. Motor control. Starters and contactors. Power factor correction. Parallel operation of generators. (Laboratory 3 hours.)

**\*453. Introduction to Power Systems (3) S Valdez, Faculty**

Prerequisite: E.E. 310 and 350. Transmission line design. Representation of power systems. Network equations. Load-flow studies. Load-flow control. Economic operation. System protection. Stability. (Lecture-problems 3 hours.)

**\*460. Guided Waves and Antennas (3) F Evans, 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 Panagiotopoulos, Faculty**

Prerequisites: Physics 152, Mathematics 370A. Electric and magnetic field theory including transmission lines, wave guides and antennas. (Lecture-problems 3 hours.)



**\*465. Underwater Sonics (3) F 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.)

**\*471. Control Systems II (3) F, S Stefani, Faculty**

Prerequisites: E.E. 370, 370L. Review of root locus and Bode plots and application to compensator design. Introduction to modern controls: state space, controllability, observability, optimization. Computer-aided design. (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 Schwartz, Faculty**

Prerequisite: E.E. 310. Introduction to probability, statistics, random variables and their application. (Lecture-problems 3 hours.)

**\*482. Communication Systems (3) F, S Hostetter, Faculty**

Prerequisite or co-requisite: E.E. 370. Frequency domain analysis of noiseless signals; Fourier series, Fourier transforms, energy spectral density, power spectral density. Effect of linear system on noiseless signals. Filter design. Modulation and demodulation of noiseless signals. Noise effects. (Lecture-problems 3 hours.)

**485. Digital Signal Processing (3) S Hostetter, Faculty**

Prerequisite: E.E. 370. Introduction to analysis and design of digital filters and other related signal processors. Sampling theorems, z-transform analysis, analog-digital conversion approximation and design aliasing and quantization. (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. Capstone Seminar in Computer Science (3) S Carissimo, Faculty**

Prerequisite: Senior standing. Intensive study of selected conceptual and theoretical problems in computer science. Student paper and presentation required.

**Graduate Division****505. Analytical Methods in Engineering (3) F, S Evans, Faculty**

Prerequisite: E.E. 401. Recapitulation of the wide variety of mathematical models used in electrical engineering. Emphasis is on the application of these models to physical problems. (Lecture-problems 3 hours.)

**506. Theory and Practice of Biomedical Instrumentation (3) F Druzgalski, Faculty**

Prerequisites: Graduate standing in Engineering, Health Science, Natural Science, Nursing or consent of instructor, E.E. 406 or departmental equivalent. Practical utilization of biomedical instrumentation and theoretical basis for physiological parameter measurement. (Lecture-problems, project 3 hours.)

**507. Advanced Topics in Biomedical Systems (3) S Druzgalski, Faculty**

Prerequisites: Graduate standing in Engineering, Health Science, Natural Science, Nursing or consent of the instructor, E.E. 406 or departmental equivalent. Design and organization of modern hospital systems and utilization of advanced technologies. Modeling and simulation of physiological and medical systems. (Lecture-problems, project 3 hours.)

**510. Passive Network Synthesis (3) F Lindquist, Faculty**

Prerequisite: E.E. 410. The principles of synthesis of linear passive networks to realize specified input and transfer characteristics. (Lecture-problems 3 hours.)

**511. Active Network Synthesis I (3) S Lindquist, Faculty**

Prerequisite: E.E. 410. Frequency and time domain analysis: delay, dominant pole-zero response, Elmore's and Valley-Wallman results. Classical filter response, active filter classification, gain sensitivity, limitations, active lowpass filter design, active filter components including op amps. (Lecture-problems 3 hours.)

**512. Active Network Synthesis II (3) F Lindquist, Faculty**

Prerequisite: E.E. 511. Flow graphs and Blackman's impedance relation. Optimum filter response, frequency transformations, design of active high-pass, band-pass, band-stop and all-pass filters, tuneable filters, frequency discriminators and oscillators. (Lecture-problems 3 hours.)

**520. MOS Integrated Circuits (3) S Houde, Faculty**

Prerequisite: E.E. 420. Techniques to implement systems using Metal Oxide Semiconductor (MOS) Large Scale Integration (LSI). (Lecture-problems 3 hours.)

**540. Digital Computer System Analysis (3) F Lane, Faculty**

Prerequisite: E.E. 440. Computer system analysis and design. Central processing units, memory organizations, microprogramming, input-output units. Advanced topics in computer architecture. (Lecture-problems 3 hours.)

**541. Computer Arithmetic Unit Design (3) F Paal, Faculty**

Prerequisite: E.E. 440. Various computer arithmetic algorithms and their implementation. Complexity-speed trade-offs. Floating point methods. Error checking. (Lecture-problems 3 hours.)

**545. Advanced Engineering Applications of Digital Computers (3) S Schwartz, Faculty**

Prerequisites: E.E. 440 and 445. Study of on-line, real time computer techniques applied to engineering system problems not solvable by classical analytical methods. (Lecture-problems 3 hours.)

**560. Applied Electromagnetic Theory (3) S Faculty**

Prerequisite: E.E. 460. Theory of radiation, impedance characteristics and radiation patterns of antenna elements. Theory of electromagnetic propagation. (Lecture-problems 3 hours.)

**565. Underwater Acoustics (3) F Faculty**

Prerequisite: E.E. 465. Ray theory, reflection and refraction, acoustic properties of the sea, transducers. (Lecture-problems 3 hours.)

**566. Underwater Detection Systems (3) S Faculty**

Prerequisites: E.E. 465, 480 or 482. Application of optimization methods to the collection and processing of underwater information. (Lecture-problems 3 hours.)

**570. Advanced Control Systems I (3) F Stefani, Faculty**

Prerequisite: E.E. 471. State space analysis. Controllability, observability, stability and optimization. Theory and analysis of sampled data systems. (Lecture-problems 3 hours.)

**571. Advanced Control Systems II (3) S Stefani, Faculty**

Prerequisite: E.E. 570. Continuation of Electrical Engineering 570. (Lecture-problems 3 hours.)

**572. Systems Analysis and Optimization (3) S Jordanides, Faculty**

Prerequisite: E.E. 471. Analysis of large-scale systems using graphic tools of systems engineering. Modeling and optimization of complex physical and socio-economic systems. Case studies applied to current engineering problems. Review of relevant papers in scientific journals. (Lecture-problems 3 hours.)

**580. Random Processes in Engineering (3) F Evans**

Prerequisite: E.E. 480. Random processes, correlation functions, spectral densities, stationarity, ergodicity, second-order properties, special processes and their applications. (Lecture-problems 3 hours.)

**582. Digital Signal Processing (3) S Evans**

Prerequisites: E.E. 410, 482. General digital processing techniques, digital filter design and fast Fourier transform analysis. (Lecture-problems 3 hours.)

**590. Special Topics in Electrical Engineering (3) S Faculty**

Prerequisite: Graduate standing in electrical engineering and consent of instructor. Selected topics from recent advances in electrical engineering. Course content will vary from year to year. Topics will be announced in the *Schedule of Classes*. May be repeated for a maximum of six units. (Lecture-problems 3 hours.)

**610. Seminar in Network Theory (3) S Lindquist, Faculty**

Prerequisite: E.E. 510 or 511 or 512. Intensive study of current professional literature and recent techniques related to network theory.

**640. Seminar in Digital Computer Systems (3) S Lane**

Prerequisites: E.E. 540, 541. Study of selected topics in computer systems in which recent significant advances have been made.

**670. Seminar in Control Systems (3) F Stefani**

Prerequisite: E.E. 570 or 571 or 572. Study of selected topics in the areas of synthesis and design of optimum control systems.

**697. Directed Research (1-3) F,S Faculty**

Prerequisite: Graduate standing. Theoretical and experimental problems in electrical engineering requiring intensive analysis.

**698. Thesis (2-4) F,S Faculty**

Planning, preparation and completion of a thesis in electrical engineering.

# Engineering

## School of Engineering

**Dean:** Dr. Richard C. Potter.

**Associate Dean:** Mr. Willard H. Reed.

**Administrative Assistant:** Maxine McCurnin.

**Emeriti:** Cecil V. Armour, Ernest G. Brind, Guy H. Cain, Jr., John H. Dudley, L. Boyd Kendall, Richard W. Leutwiler, Jr., Rodney C. Lewis, William D. McIlvaine, Harold T. Miller, Herluf P. Nielsen, Robert E. Vivian, Harold W. Washburn, Robert W. Winchell.

The School of Engineering offers four-year curricula leading to bachelor of science degrees in eight engineering disciplines which provide broad education and training for entry to the engineering profession and for continuing academic work towards advanced degrees. Master of science degrees are offered in civil, electrical and mechanical engineering, and an interdisciplinary degree, the master of science degree in engineering, is offered also. Undergraduate programs include a minimum of 132 semester units and provide opportunity to specialize in the areas of biomedical, chemical, civil, computer, electrical, industrial-management, materials, mechanical and ocean engineering. The curricula in chemical, 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 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. A. Arenal, Vice President of Engineering and Construction  
Southern California Edison Co.

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. Delmar R. Johnston, Vice President  
Pacific Valves, Inc.

Mr. Donald L. Kinnsch, Chief Plant Design Engineer  
Bechtel Power Corporation

Mr. Kenneth F. McQuade, Vice President and General Manager  
Space and Secure Telecommunications Systems Division  
Rockwell International Corporation

Mr. Thomas A. Murphy, Vice President, Engineering  
Fluor Engineers and Constructors

Mr. Robert D. Nichol, President  
Moffat and Nichol Engineers

Mr. H. George Osborne, Major Project Manager  
The Warmington-Carma Group

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. John Rodgers, President  
Automatic Instrument Service

Mr. Martin S. Simon, Vice President — Operations  
Edgington Oil Company

Mr. Edward M. Twining, President  
Twining Laboratories of Southern California, Inc.

Dr. Edward Van Driest  
Consultant

Dr. Robert E. Vivian, Dean Emeritus  
CSULB School of Engineering

#### 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.

#### General Regulations

##### 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.

#### Dual Degree Program

Students wishing to combine a professional engineering education with one in business, education, fine arts, humanities or the sciences may enter the Dual Degree Program. The School of Engineering at CSULB has agreements with other schools within the University and with other institutions which allow students to do this. After three years at the first institution, students transfer to CSULB as juniors to complete the two final years of engineering study. At the end of the first year at CSULB, students who have completed all of the requirements for their first degrees are awarded those degrees by the appropriate school or institution. At the end of their fifth year students who have completed all engineering requirements receive their engineering degrees.

#### Degree Programs

See Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering.

are awarded those degrees by the appropriate school or institution. At the end of their fifth year students who have completed all engineering requirements receive their engineering degrees.

#### Master of Science Degree in Engineering (code 6-4301)

Graduate Adviser: Willard H. Reed

Graduate Committee: Alexander, Gilpin, Schwartz.

The School of Engineering offers graduate study programs for the master of science in engineering. This program is accredited by the Engineers' Council for



Professional Development. Typical tasks and responsibilities undertaken by students training in this curriculum would not fall within one of the traditional specialties in engineering, e.g., civil, electrical and mechanical engineering. The student may pursue an interdisciplinary program selecting courses from the various departments of engineering. Additional information concerning the programs, special facilities, laboratories and research possibilities is obtainable from the School of Engineering.

**Prerequisites**

1. A bachelor's degree in an accredited curriculum in engineering, or:
2. A bachelor's degree in engineering, mathematics or a natural science or other appropriate discipline with the requirement that essential undergraduate prerequisites in engineering be satisfied.
3. Graduate students must consult with the graduate adviser for information concerning procedures and requirements for appropriate approval of their courses of study prior to enrolling in their graduate programs.

**Advancement to Candidacy**

1. Removal of all undergraduate deficiencies as determined by the School Graduate Study Committee.
2. Students, at the discretion of the School Graduate Study Committee, may be required to take examinations in their chosen areas.

**Requirements for the Master of Science**

1. Completion of a minimum of 30 units beyond the bachelor's degree in upper division and graduate courses approved by the student's School of Engineering Graduate Study Committee, including:
  - a. A minimum of 21 units in engineering or mathematics courses with 15 units of 500 and/or 600 level courses in engineering. Within the 15 units of 500 and/or 600 courses, a thesis student may not include directed research.
  - b. Nine units of electives selected from approved upper division or graduate courses from appropriate areas.
  - c. A thesis or project and/or comprehensive examination.

**Graduate Courses**

See graduate courses listed under civil, electrical and mechanical engineering.

# English

## School of Humanities

**Department Chair:** Dr. Charles E. May.

**Assistant Chair:** Mr. Gene L. Dinielli.

**Emeriti:** Charles A. Allen, Ralph K. Allen, Clarence P. Baker, George R. Cerveny, Richard H. Darbee, Wilfred P. James, Louise C. Lubbe, Elizabeth E. Nielsen, Delmer J. Rodabaugh, Aillee Wilford Rose, Stanley C. Rose, George D. Stephens, Harry S. Wilder.

**Professors:** Ames, Aspiz, Avni, Axelrad, Bell, Betar, Brekke, Bonazza, Brooks, Brophy, Crane, Crawford, Day, Fine, Fried, Gilde, Hermann, Hipkiss, Knafel, Lawson, R. Lee, Lim, Locklin, Lothamer, Lyon, Masback, May, Mittleman, Orgill, Peck, Peterson, Polk, Purcell, Rosenfelt, Samuelson, Sawyer, Schwab, Skarsten, Stetler, Sullivan, Weinstock, J. Williams, L. Williams, O. Williams, S. Wilson, Wylder.

**Associate Professors:** A. Black, Borowiec, Dinielli, Hertz, Nelson, Plourde, Pomeroy, Ross, Spiese.

**Assistant Professors:** Garrott, McCullough.

**Undergraduate Advisers:** Consult department office for referral to academic advisers.

**Graduate Adviser:** Dr. Kenneth J. Ames.

**Graduate Studies Committee:** Ames, Bell, Fine, Locklin, Ross, Skarsten.

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 undergraduate 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.

The Department of English offers graduate study leading to the master of arts degree. The candidate is urged to observe the general requirements stated in this *Bulletin* as well as the specific departmental requirements stated here and, more fully, in the *Master of Arts Brochure* issued by the department (copies of which are available upon request). The candidate is responsible, also, for the following:

1. Seeing an adviser and planning a tentative program. Filing transcripts of all college work with the English Department.
2. Completing the prerequisites to program approval, including a qualifying examination in the major.

3. Filing a diploma card at the proper time.
4. Making arrangements to take the foreign language examination or filing evidence of completion of course work in a foreign language.
5. Making arrangements to take the final comprehensive examination in English.

A limited number of teaching assistantships are available to students working on the master's degree. The beginning instructor normally teaches one class under the supervision of a faculty member.

There are limited funds available for qualified persons who wish to act as departmental readers, assisting faculty members with papers, library orders, bibliographies, etc.

Application for these positions is made to the Chair of the English Department.

### 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, 468; 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: 431 (classical background); 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 American 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; 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, 499; Theatre Arts 380, 480; Radio-TV 304. II. Three classes in recent literature, literary genres and/or literary criticism chosen from the following courses: English 384, 385, 386, 459, 467A,B, 469, 474, 475, 476, 477A,B, 479. 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 2-6827)

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; nine-12 units from the following: 385, 386, 459, 467A, 467B, 474, 475, 476, 477A, 477B. 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, 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.

**Certificate in Honors English**

This certificate program offers students the opportunity to follow their own reading schedules, fill in gaps in their knowledge and develop interests in a wide range of subjects offered by the English Department.

In order to apply, students must have senior status and a grade point average of 3.0 or better overall and 3.2 or better in their English concentration.

In addition to completion of a recognized degree program in English, a candidate must pass two comprehensive and critical examinations. Passing the first, a qualifying examination which is mainly objective, entitles the student to take the second. Passing the second, an essay examination consisting of an analysis of one or more specific texts, completes the requirements.

Interested students should seek further information from 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.

**Master of Arts Degree with a Major in English (code 5-6830)****Prerequisites**

1. A baccalaureate degree from an accredited institution (bachelor of arts degree in English or any other bachelor's degree, on the condition of completion of 24 units of upper division courses in English substantially equivalent to those required of an English major at this University, these deficiencies to be determined by the adviser after consultation with the student and study of transcript records).
2. Successful completion of a standardized test (either URE or GRE Verbal Ability and Literature) and an undergraduate grade point average of 3.0 or better in English. If the student meets only one of these criteria, her/his admission will be decided on its individual merits by the Graduate Committee.

**Advancement to Candidacy**

1. The candidate must satisfy the general requirements of the University and the department (URE, GRE or equivalent department examination).
2. The graduate program must be approved by a faculty adviser, the graduate adviser and the Dean of Graduate Studies.

**Requirements for the Master of Arts**

1. A minimum of 30 units of approved upper division and graduate courses with 24 units in the major.
2. A minimum of 20 units in the 500 and/or 600 series in English at this University, 16 of which must be in the 600 series, including English 696, which is to be completed before or in conjunction with other 600 series courses. (A student will not be allowed to take English 696 unless admitted to the M.A. program.)
3. A minimum of two seminars in the 600 series in English literature before 1900.



4. The foreign language requirement may be fulfilled in *one* of the following ways:
- (a) Completion of 12 college semester units of foreign language with a grade of C or better. These 12 units may include one or two of the following courses with a grade of B or better: English 550, 551, 661.  
or
  - (b) Completion of college course work in a foreign language equivalent to sophomore proficiency (201B) with a grade of C or better.  
or
  - (c) Proficiency in a foreign language demonstrated by passing either the ETS or a special examination in a language approved by the Graduate Studies Committee.
5. Successful completion of a final comprehensive examination.

Note: Students planning to enter a Ph.D. program are advised to pass the ETS or to complete two years of work in a single language.

#### 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 56 transferable units who score below 145 on the English Placement Test. A basic course in writing, concentrating 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 total score of 145 or above on the English Placement 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.

#### 283. Science Fiction (3) S Faculty

The literature of science fiction, from *Frankenstein* and H.G. Wells to the present, emphasizing the relevance of science and technology to literary fantasy.

#### 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.

**382. Women and Literature (3) F Rosenfelt**

Images of women in English literature; works in various genres that present the range and complexity of women's lives; feminist critical approaches and bibliographic resources. Specific content will vary.

**\*384. Principles of Literary Study (3) F,S Fine, May, Pomeroy, Samuelson**

Fundamental issues of literary study such as literary history; literary forms, themes and conventions; major critical approaches. Intense written practice in literary analysis.

**\*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.)

**\*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/ESL 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 Faculty**

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**

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, Raleigh, 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, 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, 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 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 Bell, Knafel**

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.

**\*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.

- \*468. English Drama (3) F Brooks, Crane, Orgill**  
Readings from the history of English drama, excluding Shakespeare, including Marlowe, Jonson and Restoration comedy. Not open to students with credit in English 468A or B.
- \*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. 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.
- \*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) F 1981 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. 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.
- 481. Children's Literature (3) F, S Lawson, Masback**  
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.
- 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) S Sawyer**  
Prerequisites: English 420, 421. Advanced study of language change, language families, and language relationships using the methods of comparative linguistics.
- 525. Analytical Phonology (4) F Ross, Sawyer**  
Prerequisites: English 420, 421. Theory and practice of descriptive, acoustic, distinctive feature and transformational phonology.
- 528. Current Issues in English as a Second Language (3) F, S Faculty**  
Prerequisite: English 428 or consent of instructor. Advanced study in applied linguistics, focusing on topics of current interest in teaching English as a Second Language. May be repeated under a different topic to a maximum of six units.
- 535. Teaching Composition (3) F, S Sullivan**  
Prerequisite: Bachelor's degree or consent of instructor. Intensive examination and study of composition teaching practices, research and evaluation in public schools, including community colleges.
- 537. Current Issues in English Instruction (3) F, S Sullivan**  
Designed for in-service teachers. Intensive studies and research in special, timely topics (as announced in the *Schedule of Classes*) related to the teaching of English. May be repeated to a maximum of six units with different topics.
- 550. Old English Language and Literature (4) F Knafel**  
Beowulf and other representative selections from Anglo-Saxon literature in the original language.
- 551. Middle English Language and Literature (4) F Bell, Knafel**  
Chaucer and other representative selections from Middle English literature in the original language.
- 583. Special Topics in Literature (3-4) F, S Faculty**  
Intensive studies in special topics in literary theory, techniques, types, genres, modes, themes, movements and in the relations of literature with other arts and disciplines, as announced in the *Schedule of Classes*. May be repeated for credit, on different topics, to a maximum of eight units.
- 584. Contemporary Literary Theory (3) F, S May**  
Study of the principal theories of literature including Structuralism, Hermeneutics, theory of genre and theory of criticism.
- 598. Directed Studies in Creative Writing (1-3) F, S Fried, Hermann, Lee, Locklin, Polk**  
Prerequisites: Baccalaureate degree, consent of instructor. Independent creative activity under the supervision of a faculty member. May be repeated for credit to a maximum of three units. Not applicable to the Master of Arts in English.
- 620. Seminar in Special Topics in Linguistics (4) S Sawyer**  
Prerequisites: English 420, 421 or consent of instructor. Intensive studies in special topics in linguistics as announced in the *Schedule of Classes*. May be repeated for credit, on different topics, to a maximum of eight units.
- 623. Seminar in Dialect Study (4) F Sawyer**  
Prerequisites: English 420, 421 or consent of instructor. Intensive study and individual research in variations within a language, emphasizing dialect studies of modern English.



**652. Seminar in the English Renaissance (4) S Gilde, Orgill**

Prerequisite: English 696 (may be taken concurrently). Intensive studies in the literature of the period, chiefly Elizabethan.

**653. Seminar in the Age of Milton (4) F Ames, Gilde, Purcell**

Prerequisite: English 696 (may be taken concurrently). Intensive studies in English literature of the Stuart and Commonwealth periods, including Milton.

**655. Seminar in Restoration and Eighteenth Century Literature (4) S Crawford, Purcell, Skarsten**

Prerequisite: English 696 (may be taken concurrently). Intensive studies in English literature of the Restoration and eighteenth century. Not open to students with credit in English 654.

**656. Seminar in Romantic Literature (4) F Crawford, Skarsten, L. Williams**

Prerequisite: English 696 (may be taken concurrently). Intensive studies in English literature of the Romantic period.

**657. Seminar in Victorian Literature (4) F Lothamer, May, Peterson**

Prerequisite: English 696 (may be taken concurrently). Intensive studies in English literature of the Victorian period.

**659. Seminar in Twentieth Century English Literature (4) F Locklin, Mittleman, Samuelson, Wilson**

Prerequisite: English 696 (may be taken concurrently). Intensive studies in English literature from about 1900 to the present.

**672. Seminar in the Nineteenth Century American Renaissance (4) F Faculty**

Prerequisite: English 696 (may be taken concurrently). Intensive studies in American literature from about 1820 to about 1865.

**673. Seminar in American Realism (4) F Faculty**

Prerequisite: English 696 (may be taken concurrently). Intensive studies in the development of realism in American literature.

**674. Seminar in Twentieth Century American Literature (4) S Faculty**

Prerequisite: English 696 (may be taken concurrently). Intensive studies of 20th century American writers, with attention to social forces conditioning their points of view.

**681. Seminar in Major Authors (4) F,S Faculty**

Prerequisite: English 696 (may be taken concurrently). Intensive studies in the works of specific authors as announced in the *Schedule of Classes*. Not open to students with credit in English 469 or 479 covering the same author. May be repeated for credit, on different authors, to a maximum of 12 units.

**696. Seminar in Literary Criticism and Research (4) F,S Faculty**

Study of major critical approaches to literature and basic literary research methods. Introduction to the discipline of literary criticism, various critical methodologies, techniques of bibliography and research, important literary reference works. Writing of critical research papers. A student will not be allowed to take English 696 unless admitted to the M.A. program. (An English M.A. candidate may not be enrolled in any other 600 course unless he has completed or is also enrolled in English 696.)

**697. Directed Research (1-3) F,S Faculty**

Prerequisites: English 696 and consent of instructor. Individual research of intensive study under the guidance of a faculty member.

**698. Thesis (1-6) F,S Faculty**

Prerequisites: English 696 (may be taken concurrently) and consent of instructor. Planning, preparation, and completion of a thesis under supervision of a faculty committee. Must be taken for a total of six units.

# Environmental Studies

**Director:** Dr. Roswitha B. Grannell.

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 center offers the Environmental Studies Certificate Program which is comparable to an academic minor. It has three components: natural environment prerequisites (or corequisites), core requirements and elective courses distributed in human behavior, resources and analysis and application.

The pattern of completion for the certificate is directed toward both the technically trained, research oriented student and the liberal arts, humanistically oriented student. Students in both areas *must* contact the Director, Center for Environmental Studies, for entry into the program. This contact should be made as early as possible in the student's academic career so that he or she may receive counseling in the most appropriate course work.

**Requirements for the Certificate in Environmental Studies:**

1. A bachelor's degree (may be completed concurrently).
2. Consultation with the director of the program.
3. Overall grade point average of 2.0 in all work attempted.
4. 33 units distributed as follows:

**Environmental Studies**

- A. Prerequisite or Corequisite Courses (nine units outside the major department selected from the three categories below; at least one laboratory course from categories a. or b. *must* be included, and a second is highly recommended).
  - a. Life Sciences: At least three units from Biology 200, 201, 212, 216, 313, 324, 350, 351, 353, 427, 450, 453, 464; Microbiology 100, 210, 441.
  - b. Physical Sciences: At least three units from Chemistry 100, 111A, 111B, 200, 300; Geology 100, 102, 104, 105, 160, 163, 331, 463, 464, 465, 490g; Physics 100A, 100B, 104, 105, 106, 151, 152.
  - c. Geography: 140, 440, 442, 444.
- B. Core requirements (nine units; upon petition to the Director, three units of Environmental Studies 499 may be substituted for one of the following):
  - a. Environmental Studies 360 (or Philosophy 360)

- b. Environmental Studies 490 (2 units) and 490L (1 unit), taken concurrently (only the sections entitled Environmental Field Studies may be used; the prerequisite for these courses is prior completion of six units of Section A. above, including the laboratory).
- c. Environmental Studies 496.
- C. Elective Requirements (15 units, distributed over the following three categories; nine of these units must be outside the major department, six units must be outside the school, and six units must be at upper division level).
  - a. Human Behavior: At least three units outside the major department from Economics 334; English 498 (only the section entitled "Exploited Eden" is applicable); History 405; Mechanical Engineering 200; Microbiology 321; Political Science 426, 442; Psychology 351 or Sociology 335; Sociology 350.
  - b. Man and Resources: At least three units outside the major department from Biology 100, 203; Chemical Engineering 475; Civil Engineering 390, 460, 463, 464, 465, 467, 468, 469; Economics 305; Electrical Engineering 265; Geography 160, 204, 304, 356, 455, 460, 467; Geology 190, 191, 305; Health Science 422; Mechanical Engineering 201; Physical Science 100; Recreation 318; Sociology 410.
  - c. Analysis and Application: Three units from Biology 260, 451; Computer Studies 210; Economics 380; Geography 487, 490; Geology 306; Health Science 485; Management 413; Mathematics 180; Psychology 310; Quantitative Systems 240; Urban Studies 402, 496. (Upon approval of the Director, one additional course from this category may be used to fulfill Section C, Elective Requirements in lieu of a course from a. or b. above).

#### Upper Division

##### 360. Ethics and Ecology (3) F, S Massey, Quest

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 examined 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) F, S Faculty

Prerequisite: Consent of instructor. Topics of current interest in environmental studies selected for intensive development. May be repeated (with change of topic) 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 in lieu of equivalent units in Section C, Elective Requirements.

##### 490L. Special Topics Laboratory (1-2) F, S Faculty

Prerequisite: Consent of instructor. Laboratory in topics of current interest in environmental studies selected for intensive development. May be repeated for a maximum of four 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.

##### 496. Practical Involvement in Environmental Issues (3) F, S Faculty

Prerequisite: Consent of instructor. Intern experience in public agencies and private industry.

##### 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 towards the Environmental Studies Certificate in lieu of equivalent units in Sections B and C (Core Requirements and Elective Requirements).

# Experiential Learning Center

Director: Hal M. Schaffer.

Assistant Directors:

Professional Internships: Ken Hutchins.

Service Learning Internships: Ruby Leavell.

The Experiential Learning Center (ELC) offers students a wide variety of internship programs involved in private industry and public agencies. The center is comprised of four programs, the Educational Participation in Communities (EPIC) volunteer field experience program, the Volunteers In Service To America (VISTA) one year community service program, the Cooperative Education (CO-OP) paid field experience program and the paid Summer Internship program.

These programs are designed to assist students in gaining a deeper understanding of the relationship between theory and practical application through on-the-job experience with professionals in the field. The programs provide an organized plan utilizing a series of seminars and carefully selected internships which together will help to enhance the total education of students. Learning agreements are utilized in all ELC programs to insure systematic planning, thorough preparation and careful documentation of all internships. Students who have taken the initiative to design their own field experience placements may qualify for enrollment in an internship program with prior approval through the Experiential Learning Center.

#### Lower Division

##### 297. Introduction to Experiential Learning (3) F, S Faculty

Emphasis is placed on self-directed experience-based learning. Students will identify and measure their learning styles and explore how various learning paradigms affect decision making, problem solving and career choices. A field experience may be arranged concurrently by enrolling in ELC 497 or 498 with consent of instructor. Evaluation on Credit/No Credit basis.

### Upper Division

#### 497. EPIC Field Experience (1-3) F,S Faculty

Prerequisites: Upper division standing and consent of instructor prior to registration. Students who qualify can be placed in a major or career-related volunteer assignment in local government and non-profit agencies. All participants utilize learning agreements. A final written report is required. Class attendance to be arranged by instructor. Credit/No Credit only; (3 hours volunteer field experience per week per unit of credit). May be repeated for a maximum of six units. activity 6 hours.)

#### 498. CO-OP Field Experience (1-4) F,S Faculty

Prerequisites: Upper division standing and consent of instructor prior to registration. Students who qualify can be placed in a professional internship as an employee in private industry and public agencies. All participants utilize learning agreements. A final written report is required. Class attendance to be arranged by instructor. Credit/No Credit only; (10 hours field experience per week per unit of credit). May be repeated for a maximum of eight units.

# Finance, Real Estate and Law

## School of Business Administration

**Department Chair:** Dr. Richard J. Teweles.

**Professors:** Beecher, Belt, Dilbeck, Farrell, George, Harlow, Kearney, McCulloch, Runyon, Sachdeva, Teweles.

**Associate Professors:** Levine, Morris, Pastrana.

**Assistant Professors:** Rhoads, Ulivi.

**Undergraduate Advisers:** Dr. Raymond R. Farrell, Mr. Gene P. Morris.

**Real Estate Adviser:** Dr. Michael L. Kearney.

For all degree requirements see **Business Administration**.

### 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.

**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 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. Residential Appraising (3) F, S Gilon, Kearney**

Prerequisite: Finance 342 or consent of instructor. Determining real property values, economic foundations, housing market, purpose of appraisals, analysis of factors involved and their relationship to trends in property values. Gross rent multiplier analysis in residential and income property. Emphasis on residential properties.

**448. Income Property Valuation (3) F, S Gilon**

Prerequisite: Finance 446 or consent of the instructor. Valuation of income producing properties, including apartments, commercial, and industrial complexes. Analysis of market and factors affecting values. Net present worth of projected cash flows, and reduction sales data. Mortgage equity analysis, lease valuation and condemnation appraising.

**\*449. Real Estate Finance (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. Real Estate Investment Analysis and Taxation (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. Feasibility Analysis and Land Development (3) F, S Faculty**

Prerequisite: Finance 448 or consent of instructor. Feasibility analysis in land development: acquisition, land development, engineering design and financial planning. Improvement evaluation: rehabilitation, remodeling modernization and urban renewal. Proposed real estate complex evaluation for shopping centers, mall and industrial parks. Long run socio-economic impacts, legal implications.

**464. Financial Management (3) F, S Beecher, 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, Rhoads**

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**

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 Prerequisite Courses****500. Legal Environment of Business (3) F, S Faculty**

Prerequisite: Graduate standing. Framework and role of law in society emphasizing the judicial process, basic concepts of commercial law and evolution of legal attitudes between business and government. Not open to students with credit in Finance 322 or 324.

**501. Finance Survey (3) F, S Faculty**

Prerequisite: Graduate standing. Financial theory, management and environment of the firm. Not open to students with credit in Finance 360 or 362.

**Graduate Division****531. Estate Planning (3) F Farrell**

Prerequisites: Finance 222, 324. Planning and administration of the disposition of property by wills, estates and trusts including use of life insurance, impact of federal and state taxes and special trust provisions and devices.

**532. Problems in Real Estate (3) S Dilbeck**

Prerequisite: Finance 342. Effect of government on the market functions and structure, management of related industry firms, investment risk and return analysis and special urbanization trends.

**533. Capital Budgeting (3) F Dilbeck**

Prerequisites: Finance 362, 464. Theory of capital budgeting within framework of the firm. Cost of capital determination and logics of expansion vs. growth and equity financing vs. debt financing.

**630. Seminar in Financial Forecasting (3) S Runyon**

Prerequisites: Finance 362, 464 or consent of instructor. Research projects in general forecasting and financial forecasting in industry, individual company, product and commodity areas.

**631. Seminar in Business Finance (3) F Faculty**

Prerequisites: Finance 360, 362. Specific analysis of capital formation with selected problems concerning supply and demand of investment funds. Problems imposed on equity capital markets by public taxation, business debt financing, and practices of investing institutions. Presentation and interpretation of student reports on selected topics.

**633. Seminar in Investments (3) S Belt, Runyon**

Prerequisites: Finance 464, 382 or 484. Selected problems in security analysis, portfolio planning, balance and adjustment as related to (1) individual circumstances of the investor, (2) specific market conditions, and (3) broader financial aspects of the economy. Presentation and interpretation of student reports on selected topics.

**691. Seminar in International Finance (3) F, S Faculty**

Prerequisites: Finance 490, background in economics, accounting and finance, graduate standing in business administration. Covers real and monetary factors in the finance of international business, international capital markets, movements of funds and special problem area.

**695. Selected Topics (3) F, S Faculty**

Prerequisite: Consent of instructor. Topics to be announced in the *Schedule of Classes*. Topics change each offering and in the absence of significant duplication the course may be repeated once for credit.

**697. Directed Studies (1-3) F, S Faculty**

Prerequisite: Consent of instructor. Individual study under the direction of the faculty.



# Fine Arts

School of Humanities

## School of Fine Arts

Dean: Dr. Charles Schwartz

Associate Dean: Jane Milley

Within the School of Fine Arts, undergraduate programs are offered in Art, Dance, Music and Theatre Arts. In addition, a student may pursue a graduate degree in all areas except dance. The School of Fine Arts is committed to providing an excellent educational program and seeks to serve students who are:

- planning professional careers in the Fine Arts
- planning careers in public school teaching in the Fine Arts
- seeking a broader and less professionally oriented education in the Fine Arts
- planning careers in fields other than Fine Arts but who wish to learn about the history and nature of the arts through formal study and, whenever possible, personal participation.

The School also sponsors more than 175 performances and exhibitions each year, many of which are open to the community. Presentations include works developed by faculty and students as well as performances, exhibitions, or lectures by professionals who are invited to the campus.

Special programs, including summer workshops and performance seminars, are also offered by the School of Fine Arts. These programs are intended to expose students to an intensive training and performance experience with visiting professionals as well as CSULB faculty who have national or international reputations.

Although the School of Fine Arts enjoys fine facilities, including an exceptional Theatre Arts Building, the completion of a new music facility is anticipated early in 1982.

The School also has the support of two community organizations, Fine Arts Affiliates and Dramatic Allied Arts Guild. These organizations award student scholarships and provide assistance for special projects and events in the School of Fine Arts.



# French-Italian

## School of Humanities

**Department Chair:** Dr. F.M. Swensen.

**Professors:** Quillen, Swensen, Thomas.

**Associate Professors:** Kessler, Winter, Yperman.

**Credential Adviser:** Mr. Herbert Winter.

**Undergraduate Adviser:** Dr. F.M. Swensen.

**Graduate Adviser:** Dr. Elizabeth Quillen.

### French

The undergraduate 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.

The French-Italian Department offers graduate study leading to the master of arts degree in French. The candidate is urged to observe the general requirements stated in this *Bulletin*, as well as the specific departmental requirements. In all upper division and graduate level courses, French is the language of instruction in all regular classes.

#### 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 with a Major in French (code 5-6812)

##### Prerequisites

1. A bachelor of arts degree in French, or:

2. A bachelor's degree with a minimum of 24 upper division units in French, comparable to those required of a major in French at this University. Deficiencies will be determined by the adviser after consultation with the student and study of transcript records.

#### Advancement to Candidacy

1. Approval of the graduate program by the graduate adviser, the faculty adviser and/or departmental committee, and the Dean of Graduate Studies.
2. The candidate may file for advancement to candidacy after she/he has filed a transcript of credits or a change of objective form, and completed the prerequisites.

#### Requirements for the Master of Arts

1. Completion of a minimum of 30 units of approved upper division and graduate courses with 24 units in French.
2. A minimum of 18 units in the 600 series in French.
3. A reading knowledge of German, Italian, Latin, Russian, or Spanish. Another language may be substituted only under special circumstances. This requirement must be completed before taking the comprehensive examination.
4. A comprehensive examination.

#### Lower Division

##### 101A-B. Fundamentals of French (4,4) F, S Faculty

Fundamental skills of speaking, comprehending, reading and writing.  
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.

##### 201A-B. Intermediate French (4,4) F, S Faculty

Continued work in speaking, pronunciation, comprehension and writing 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 three language skills: reading, comprehension and composition.

##### 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 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 compositions and developing an awareness of French style.

##### \*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) S, 1981 and alternate years 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) F, 1981 and alternate years 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) F, 1981 and alternate years 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) S, 1982 and alternate years Kessler, Swensen

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) F, 1982 and alternate years 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) F, 1982 and alternate years 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) F,S 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) F,S Faculty**

Prerequisite: Corresponding 400 level century survey course or consent of instructor. Intensive studies in one of the following: (a) Medieval period, (b) 16th Century, (c) 17th Century, (d) 18th Century, (g) 19th Century, (h) 20th Century. Courses may be taken concurrently or repeated if century studied is different. Each seminar gives three units of credit for a total of 18.

**685. Seminar in French Literary Masters (3) F,S Faculty**

The study of one outstanding French author each semester such as: Du Bellay, Diderot, Hugo, Balzac, Proust, Gide. May be repeated once for credit, provided the author studied is not the same.

**688. Seminar in French Literature or Culture (3) F,S Faculty**

Prerequisite: Graduate standing in French. Intensive study of a specific aspect of French literature or culture. Subjects to be announced in the *Schedule of Classes*. May be repeated for credit on different subjects.

**696. Bibliographical Methods of Research (3) F Faculty**

Introduction to methods of research, scholarly writing.

**697. Directed Research (1-3) F,S Faculty**

Prerequisite: Consent of department chair. Individual study under the guidance of a faculty member. May be taken for a maximum of three units.

**698. Thesis (2-6) F,S Faculty**

Planning, preparation, and completion of thesis in French for the master's degree. Optional.

**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 three language skills: reading, comprehension and composition.

**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 written language.

**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.



# Geography

## School of Social and Behavioral Sciences

**Department Chair:** Dr. Rodney Steiner.

**Emeriti:** Burton L. Anderson, Frederick H. Scantling, James N. Wilson.

**Professors:** Ericksen, Karabenick, Kimura, Peters, Splansky, Steiner.

**Associate Professors:** Debysingh, Outwater, Tyner, Wheeler.

**Credential Adviser:** Dr. Jean D. Wheeler.

**Undergraduate Adviser:** Dr. Rodney Steiner.

**Graduate Adviser:** Dr. Rodney Steiner.

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 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.

The master of arts degree in geography is designed for those wishing to expand their geographic competence beyond that expected of the bachelor's degree, for those seeking teaching credentials where the master's degree is required and as preparation for further study elsewhere. Candidates are responsible for observing the general requirements stated in this *Bulletin* as well as the specific departmental requirements contained in the *Geography Master of Arts Handbook*, available from the Geography Department on request.

### 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 358, 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 358, 452, 455, 460, 466, 467, 470, 494†, 497†, and
- (2) Methods and Techniques courses: 3 to 12 units chosen from 380, 400, 482, 483, 484, 486, 490, 494†, 497†, 596, and

- (3) Regional courses: 3 to 9 units chosen from 304, 306, 310, 312, 316, 318, 321, 322, 326, 494†, 497†.

**Social Science Requirement:** Six upper division units must be taken outside the department, and within the School of Social and Behavioral Sciences. Selection of courses to meet this requirement should be made in consultation with the departmental undergraduate adviser. These courses do not count for the General Education requirement.

**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.

#### Cartography Certificate Program

**Director:** Dr. Judith Tyner (Geography).

#### Advisory Committee:

Dr. Robert Alexander (Civil Engineering).

Sandra Lamprecht (University Library).

Dr. George Randall (Industrial Arts).

Dr. Rodney Steiner (Geography).

The Cartography Certificate program offers specialized training in a variety of theoretical and applied cartographic techniques. The program is designed to provide experience in communication through maps and serves as a supplement to standard degree programs. It provides essential training for those seeking map making careers in both the public and private sector.

The program is characterized by an interdisciplinary approach reflecting the nature of the field which has two major aspects — thematic and topographic. Those skills required by both branches are encompassed by a core program and the two concentrations provide specific training for each of the two types of cartography.

The Thematic/General concentration is designed for students whose goals involve graduate programs in cartography or map librarianship or working for commercial map making firms, planning departments and the like. The Topographic concentration is designed for the student who intends to work for engineering or geological research firms or agencies.

#### Requirements for the Certificate in Cartography:

1. A bachelor's degree with a major in a traditional discipline. 20 units distributed as follows:
  - (A) **Core** (required of all students) of 15 units:
    - Geography 380, 482, 484, and Industrial Arts 352.
  - (B) **Concentration** (required of all students) in one of these two patterns selected in consultation with an adviser:
    - (1) **Thematic/General Cartography**
      - Group A:** Six units chosen from: Geography 400, 490; Industrial Technology 315; Mathematics 101, 180, 115s, 270; Computer Studies 200.
      - Group B:** Six units chosen from: Industrial Arts 141, 151, 341, 342, 453, 454; Mechanical Engineering 172.
      - Group C:** Three units chosen from: Civil Engineering 225, 428; Geology 490f.
    - (2) **Topographic Mapping**
      - Group A:** Geography 440 and six units chosen from Geography 487, Civil Engineering 225, 420, 428; Geology 490f.
      - Group B:** Three units chosen from: Industrial Arts 141, 341, 342; Mechanical Engineering 172.
      - Group C:** Three units chosen from: Mathematics 101, 115s, 270; Industrial Technology 315; Computer Studies 200.

#### Master of Arts Degree with a Major in Geography (code 5-8515)

#### Prerequisites

1. A bachelor's degree in geography, or:
2. A bachelor's degree with 24 units of upper division courses in geography substantially equivalent to that required for a major in geography at this University. Deficiencies will be determined by the Geography Department, which may then require the completion of deficient courses and/or passage of a special examination prior to enrollment in the master's degree program.
3. Completion of 3 units chosen from Geography 400, 482, 486.
4. An undergraduate grade point average of 3.0 (B) or better in geography, or alternative evidence of ability to do graduate work.
5. File with the department a declaration of intent to seek the master's degree in geography.

#### Advancement to Candidacy

1. See the *Geography Master of Arts Handbook*.
2. See the general University requirements.

#### Requirements for the Master of Arts

1. Completion of 30 units of approved upper division and graduate courses. A minimum of 24 units must be in geography, and at least 15 units must be in the 500 and 600-level courses, and at least 6 units must be from the 600 series. Geography 697 for thesis candidates and 698 for comprehensive examination candidates will not count towards this 15-unit requirement.
2. Completion of 6 units chosen from Geography 400, 482, 486.
3. Specific course work to gain competence in foreign language, in quantitative techniques, in written composition, or in other realms essential to a particular course of study may be prescribed by the student's advisory committee.
4. Thesis or comprehensive examination.

#### Lower Division

#### 100. World Regional Geography (3) F, S Debysingh, Karabenick, Splansky

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 the physical environment with an emphasis on human-environmental interaction and perceptions of environmental hazards and resources.

#### 152. Introduction to Economic Geography (3) F, S 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, Splansky

Geographic aspects of culture, including the past and present social, political and economic factors that are related to man's perception, organization and use of his environment.

† 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.

**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****Regional**

These courses examine the relationships between peoples, cultures and their landscapes in specific areas of the world. There are no prerequisites for these courses; their broad scope provides the student a better understanding and appreciation of the world in which we live, thus they are ideally suited for general education and liberal studies.

**304. California (3) F, S Splansky, Steiner, Wheeler**

California's diverse natural and cultural environment with emphasis upon social and economic problems and the human response to environmental hazards.

**306. United States and Canada (3) F, S Outwater, Wheeler**

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.

**310. Africa and the Middle East (3) F Karabenick, Splansky**

Human and physical settings of Africa and the Middle East and the cultural, economic, settlement, and political relationships that characterize them stressing those factors which underlie the region's instability. Not open to students with credit in Geography 308 or 309.

**312. Eastern and Southern Asia (3) F Debysingh, Kimura**

Characteristics and problems of population, cultural patterns, resource utilization, and economic development in eastern and southern Asia from Japan to Pakistan and China to Viet Nam. Not open to students with credit in Geography 313 or 314.

**316. Europe (3) S Karabenick, Wheeler.**

The human and physical patterns of Europe. Current cultural conditions and environmental problems.

**318. The Soviet Union (3) F, S Faculty**

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 historical-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 Faculty**

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.)

**358. Environmental Perception (3) S Peters**

Environmental perception as a theme in modern geography, viewed at various scales, from the local to the world. Emphasis on the role of values and attitudes in shaping cultural landscapes.

**Systematic**

These courses deal with diverse subjects and are organized to provide the basic framework for the physical and cultural sub-fields of the discipline.

**\*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. Descriptive and explanatory analysis of the elements and controls of climate. Climates of the world with emphasis on California and North America. (Lecture, problems 3 hours.)

**\*452. Economic Geography (3) F 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**

Introduction to the geographic study of population. Includes growth and distribution of world population; results of changing births, deaths, and migration; variations in population composition; related problems such as food supplies and environmental deterioration.

**\*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 Faculty**

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.)

**Methods and Techniques**

These courses develop skills in graphic and statistical communication and field analysis which are used within the various sub-fields of the discipline. Either of the first two courses (Geography 380 and 400) is especially recommended for satisfying General Education requirements.

**380. Map Reading and Interpretation (3) F, S Debysingh, Tyner**

Interpretation and understanding of maps as graphic communication with particular emphasis on symbolization, scale and projection. Information retrieval skills applicable to general, thematic and topographic maps are developed. (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 another statistics course, including Geography 490.

**\*482. Elements of Cartography (3) F, S Tyner**

Prerequisites: Geography 380, consent of instructor. Theory and techniques in the design and construction of thematic maps, including experience in the use of basic 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.)

**\*484. Advanced Cartography (3) S Tyner**

Prerequisite: Geography 482. Advanced theory and techniques in cartographic communication including map perception, terrain representation, history of cartography, computer mapping and color. (Lecture-discussion 2 hours, laboratory 3 hours.)

**\*486. Field Methods in Landscape Analysis (3) Karabenick, Outwater, Splansky**

Prerequisite: Geography 380 or consent of instructor. Introduction to field techniques including formulation of field plans, recording direct observation, field mapping, sampling techniques, interviewing, and organizing and evaluating data for presentation. Not open for credit to students with credit in Geography 386, 387, 388, 487, or 488. (Lecture-discussion 2 hours, supervised field work 2 hours.)

**\*490. Quantitative Methods (3) F Peters**

Prerequisite: Geography 400 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.

**General****\*494. Special Topics (1-3) F, S 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 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.

**Graduate Division****596. Literature and Methods in Geography (3) F Faculty**

Prerequisite: Consent of instructor. Proseminar in the methods, theory and techniques of geographic investigation with emphasis upon classical and contemporary literature. Not open to students with credit in Geography 496.

**600. Seminar in Regional Geography (3) S Faculty**

Prerequisite: Consent of instructor. Regional methods of study common to geographic research, and their utilization in developing regional concepts.

**640. Seminar in Physical Geography (3) S Kimura, Steine, Wheeler**

Prerequisite: Consent of instructor. Advanced study of areal variations in the physical landscape. Research methods and resources. Individual investigation of a selected local area. May be repeated once with consent of department adviser.

**650. Seminar in Cultural Geography (3) F Debysingh, Splansky**

Prerequisite: Consent of instructor. Systematic investigation of human occupation in its varied environmental and regional settings. May be repeated once with consent of department adviser.

**652. Seminar in Economic Geography (3) F Peters**

Prerequisite: Consent of instructor. Fundamental resources and basic industries of the modern world. May be repeated once with consent of department adviser.

**666. Seminar in Urban Geography (3) S Karabenick, Outwater, Splansky**

Prerequisite: Consent of instructor. Geographic concepts and techniques of research applied to specific urban areas. May be repeated once with consent of department adviser.

**697. Directed Research (1-3) F, S Faculty**

Prerequisite: Consent of instructor. Research in geography supervised on an individual basis. Required of non-thesis students who have been advanced to candidacy for the master's degree in geography.

**698. Thesis (1-6) F, S Faculty**

Prerequisite: Consent of instructor. Planning, preparation and completion of thesis for the master's degree.

# Geological Sciences

## School of Natural Sciences

**Department Chair:** Dr. Paul J. Fritts.

**Professors:** Chan, Conrey, Dennis, Ehrreich, Fritts, Grannell, Green, Lumsden, Walker, Winchell.

**Undergraduate Advisers:**

Geological Sciences: Dr. Paul J. Fritts.

Earth Science: Dr. Roswitha Grannell.

**Graduate Adviser:** Dr. Roswitha B. Grannell.

**Joint Committee:** Conrey, Green.

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Geology is the study of the solid earth. Within the broad field of geology undergraduate 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 Biology section of this *Bulletin* for additional information.

A dual degree, Geology-Civil Engineering, or Earth Science-Civil Engineering, is also offered. For further information inquire at the Department of Geological Sciences or at the Department of Civil Engineering.

### Geological Sciences Professional Advisory Council

The Geological Sciences Advisory and Development Council consists of outstanding geologists, engineers, and executives from industry and government. The function of the council is to provide a liaison between the University and industry, and to keep the faculty informed of recent developments in the application and practice of the geological sciences. This will insure that the curriculum is appropriate in light of modern practice. The council also advises the department on employment opportunities for students who are majoring in geology. The council membership consists of the following:

Ms. E. Ann Butler, Senior Geological Advisor of Corporate Exploration, Atlantic Richfield Company

Mr. James T. Carter, Executive Partner, Dames and Moore

Mr. Jeremy V. Cassady, President, Downey Valve Co., Inc.

Mr. William H. Cree, Jr., Attorney at Law

Mr. Elmer L. Decker, Decker Engineering Corp.

Dr. Gary Green, Marine Geologist, U.S. Geological Survey

Mr. Maurice S. Hubbell, Lomita Gasoline Co.

Mr. William J. Hunter, Senior Engineer, Thums Long Beach Co.

Mr. George B. Pichel, Chief Geologist, Union Oil Co. of California  
 Dr. James E. Slosson, President, State Board of Registration for Geologists and Geophysicists

Mr. Jay L. Smith, Consulting Geologist  
 Mr. Melvin H. Stansbury, M.H. Stansbury, Inc.  
 Mr. James H. Thompson, Exploration Services

#### Major in Geology for the Bachelor of Science Degree (code 3-7664)

*Lower Division:* Geology 102, 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 in advance by departmental adviser.

##### (2) Marine Geology

*Lower Division:* Mathematics 224; Physics 151, 152.

*Upper Division:* Geology 460, 461, 461L 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 437.

##### (5) Structural Geology

*Lower Division:* Mathematics 224; Physics 151, 152.

*Upper Division:* Geology 450, 460, 490 and four additional units approved by adviser.

#### Earth Science

The earth science program prepares students to understand the natural environment, earth resources, land use, pollution and other areas of critical importance to present and future world problems. The following career-oriented interdisciplinary emphases are offered: (1) Engineering Geology, (2) Exploration Geophysics, (3) Earth Materials, and (4) Oceanography.

#### Major in Earth Science for the Bachelor of Science Degree (code 3-7663)

*Lower Division:* Geology 102, 104; Chemistry 111A, 111B; Mathematics 117, 122, 123, 224; Physics 151, 152.

*Upper Division:* Geology 320A-B, 322.

Additional courses required for the several emphases are listed below. The specified units required beyond those in the listed courses *must be approved in advance* by the departmental adviser in the selected emphasis.

##### (1) Engineering Geology

*Lower Division:* C.E. 205, 206.

*Upper Division:* Geology 321, 330, 341, 342, 372, 423, 441, 448, 449, 450; C.E. 345, 346, 445; M.E. 373, 374; nine additional units in mathematics, engineering or science approved in advance by the appropriate departmental adviser.

##### (2) Exploration Geophysics

*Lower Division:* Mathematics 270 or 3 units of Geology 496; Physics 153.

*Upper Division:* Geology 321, 330, 341, 342, 372, 441, 448, 460, 490C, 496 (1 unit or 4 units if no Mathematics 270); Mathematics 370A, 370B, 380A; Physics 310, 340A, 340B; nine additional units approved in advance by the appropriate departmental adviser.

##### (3) Earth Materials

*Lower Division:* Chemistry 251, 251L; Physics 153.

*Upper Division:* Geology 321, 342, 423, 461, 461L, 490C, 491; Chemistry 371A, 371B, 431, 451, 385 or Chemical Engineering 305; Mathematics 346; M.E. 322, 423; nine additional units in geology, mathematics, physics, or chemistry approved in advance by the appropriate departmental adviser.

##### (4) Oceanography

*Lower Division:* Geology 160, 191; Mathematics 170; Biology 200; Electrical Engineering 265.

*Upper Division:* Geology 341, 460, 461, 463, 464, 465, 466, 496 (3); Biology 416; 20 additional units in engineering and science approved in advance by the appropriate departmental adviser.

#### Minor in Geology (code 0-7664)

Twenty units which must include:

*Lower Division:* Geology 102, 104, 140.

*Upper Division:* Nine units of geology.

#### Master of Science Degree in Geology

The Department of Geological Sciences is one of three departments in The California State University and Colleges in Southern California which offer courses leading to a master of science degree in geology. The three universities in the joint program are California State University, Long Beach, California State University, Northridge and California State University, Los Angeles.

The objectives of the master of science program in geology are (1) to offer a degree program which will train individuals with the competence required by the geological profession for employment in industry and government agencies, (2) to enable promising students to attain a level of knowledge and research ability required for admission to a Ph.D. program at other universities, (3) to provide an M.S. program with basic course work and research requirements for students planning to teach geology at the community college level.

#### Master of Science Degree with a Major in Geology (code 6-7664)

##### Admission to the Program

The basic requirement of admission to this graduate program is possession of a B.S. degree in geology or its equivalent in accordance with policies established by the joint committee. The student normally will be expected to have completed acceptable upper division course work in three of the following areas: geochemistry, stratigraphy, igneous and metamorphic petrology and optical crystallography.

Students who do not have appropriate upper division course work in three of the areas listed above may be admitted to the program but will be expected to remove



this deficiency or present alternatives acceptable to the joint committee. All students are required to take the verbal and quantitative portions of the Graduate Record Examination and attain a satisfactory score before or during their first semester or quarter of attendance.

#### Requirements for the Degree

The candidate's program will be designed with the assistance of a faculty adviser, who in turn will submit it for approval to a graduate advisory committee consisting of at least one faculty member from another campus in the joint program, and at least two other faculty members. The chairman of the advisory committee must be a faculty member from the home campus. All candidates must take either Geology 698, Thesis (six semester units), or a combination of a comprehensive examination and Geology 697, Directed Research (three units). Geology 697 and the comprehensive examination or Geology 698 must be directed by a faculty member from the home campus.

#### Course Requirements

Candidates must take a minimum of 15 semester units (22½ quarter units) of 500 or 600 level courses, including Thesis, and an additional 15 semester units (22½ quarter units) of 400, 500 and 600 level courses chosen with the approval of the student's adviser and the graduate advisory committee. At least six semester units must be taken at another university in the joint program; of these, at least three semester units must be in a 500 or 600 level course.

The program can be designed from the following list of courses: 500 and 600 level courses, minimum of 15 semester units (22½ quarter units).

1. Advanced Micropaleontology  
CSULB: Geology 515, 3 semester units  
CSUN: Geology 515, 3 semester units  
CSULA: Geology 515, 4.5 quarter units
2. Advanced Stratigraphic Analysis  
CSULB: Geology 520, 3 semester units  
CSUN: Geology 520, 3 semester units  
CSULA: Geology 520, 4.5 quarter units
3. Advanced Paleontology  
CSULB: Geology 510, 3 semester units  
CSUN: Geology 510, 3 semester units  
CSULA: Geology 510, 4.5 quarter units
4. Seminar in Structural Geology and Tectonics  
CSULB: Geology 530, 3 semester units  
CSUN: Geology 530, 3 semester units  
CSULA: Geology 530, 4.5 quarter units
5. Advanced Igneous Petrology  
CSULB: Geology 540, 3 semester units  
CSUN: Geology 540, 3 semester units  
CSULA: Geology 540, 4.5 quarter units
6. Advanced Metamorphic Petrology  
CSULB: Geology 541, 3 semester units  
CSUN: Geology 541, 3 semester units  
CSULA: Geology 541, 4.5 quarter units
7. Advanced Crystal Chemistry  
CSULB: Geology 550, 3 semester units  
CSUN: Geology 550, 3 semester units  
CSULA: Geology 550, 4.5 quarter units
8. Advanced Geochemistry  
CSULB: Geology 555, 3 semester units  
CSUN: Geology 555, 3 semester units  
CSULA: Geology 555, 4.5 quarter units
9. Chemical Oceanography  
CSULB: Geology 562, 3 semester units  
CSUN: Geology 562, 3 semester units  
CSULA: Geology 562, 4.5 quarter units
10. Advanced Marine Geology  
CSULB: Geology 564, 3 semester units  
CSUN: Geology 564, 3 semester units  
CSULA: Geology 564, 4.5 quarter units
11. Special Topics in Geology  
CSULB: Geology 570, 3 semester units  
CSUN: Geology 570, 3 semester units  
CSULA: Geology 570, 4.5 quarter units
12. Seminar in Engineering Geology  
CSULB: Geology 581, 3 semester units  
CSUN: Geology 581, 3 semester units  
CSULA: Geology 581, 4.5 quarter units
13. Directed Research  
CSULB: Geology 697, 1-3 semester units
- Independent Study  
CSUN: Geology 599, 1-3 semester units
- Directed Graduate Studies  
CSULA: Geology 598, 1-4.5 quarter units
14. Thesis  
CSULB: Geology 698, 6 semester units

Electives in geology, maximum of 15 semester units (22½ quarter units)

#### California State University, Long Beach

- Geology 443, Micropaleontology, 3 semester units (4.5 quarter units)
- Geology 460, Geophysics, 3 semester units (4.5 quarter units)
- Geology 464, Geological Oceanography, 3 semester units (4.5 quarter units)
- Geology 465, Physical and Chemical Oceanography, 3 semester units (4.5 quarter units)
- Geology 466, Oceanography Laboratory and Ocean Studies, 1 semester unit (1.5 quarter units)
- Geology 471, Petroleum Geology, 2 semester units (3 quarter units)
- Geology 490, Current Topics in Geological Sciences, 3 semester units (4.5 quarter units)
- Geology 491, X-ray Crystallography, 3 semester units (4.5 quarter units)

#### California State University, Northridge

- Geology 403, Micropaleontology, 3 semester units (4.5 quarter units)
- Geology 422, Oceanography, 4 semester units (6 quarter units)
- Geology 424, Marine Geology, 3 semester units (4.5 quarter units)
- Geology 425, Economic Geology, 3 semester units (4.5 quarter units)
- Geology 426, Seminar in Oceanography, 2 semester units (3 quarter units)
- Geology 451, Engineering Geology, 3 semester units (4.5 quarter units)

#### California State University, Los Angeles

- Geology 411, Economic Geology of Non-metallic Deposits, 4 quarter units (2½ semester units)
- Geology 412, Economic Geology of Metallic Deposits, 4 quarter units (2½ semester units)
- Geology 470, X-ray Crystallography, 4 quarter units (2½ semester units)
- Geology 471, Analytical Geochemistry, 4 quarter units (2½ semester units)
- Geology 480, Geophysics, 4 quarter units (2½ semester units)
- Geology 481, Engineering Geology, 4 quarter units (2½ semester units)
- Geology 482, Ground Water Hydrology, 4 quarter units (2½ semester units)
- Geology 483, Photogeology, 4 quarter units (2½ semester units)

With approval of the graduate advisory committee, appropriate 400, 500 or 600 level courses from related areas in science, mathematics or engineering may be substituted in the above list for up to nine semester units (12 quarter units).

In addition to the above, one course from the following list may also be acceptable upon petition to the joint committee: stratigraphy, optical crystallography, igneous and metamorphic petrology and geochemistry.

#### Concurrent and/or Summer Enrollment in Another College

Students who wish to take course work in a community or another college to meet curricular requirements while enrolled as undergraduates in the School of Natural Sciences 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.

#### 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.

**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. (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 Ehreich, Winchell**

Prerequisite: Chemistry 111A or consent of instructor. Corequisite: Geology 322. 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 Ehreich**

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, Green**

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 Ehreich**

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.)

**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 reports and illustrations. Fifteen days of fieldwork during registration week, spring vacation and/or weekends of the spring semester. Students must contact the department by November 1 and register by Computer Assisted Registration. (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 (2) S 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, field trips.)

**461L. Laboratory in Geochemistry (1) S Walker****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) S 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, Lumsden**

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, (u) Urban geology. 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) F Lumsden**

Prerequisites: Upper division courses in invertebrate paleontology, stratigraphy and micropaleontology. Seminars in various topics in invertebrate paleontology, such as biostratigraphy, paleoecology, functional morphology, etc. May include field and laboratory investigations. May be repeated for credit as topic changes.

**515. Advanced Micropaleontology (3) Fritts**

Prerequisites: Three units of micropaleontology or consent of instructor. Advanced studies in morphology, taxonomy, ecology and paleoecology of microfossils; biostratigraphy and age determination of sedimentary rocks. (Lecture 1 hour, laboratory 6 hours.)

**520. Advanced Stratigraphic Analysis (3) Walker**

Prerequisites: Introductory course in stratigraphy, sedimentary petrology and paleontology or consent of instructor. Principles and techniques of stratigraphic analysis with emphasis on interpreting the stratigraphic record to aid in reconstruction of environment of deposition and paleogeography. Course will revolve around a field problem and include application of methods from physical stratigraphy, biostratigraphy and sedimentary petrology to solution of the problem. (Lecture 1 hour, laboratory 3 hours, field work 8 days.)

**545. Rock Mechanics in Engineering Practice (3) F Yen**

Prerequisites: Civil Engineering 345, 346. Principles of rock mechanics with emphasis on engineering practices for problems of slopes, foundations and tunnels. Same course as Civil Engineering 545. (Lecture, problems 3 hours.)



**530. Seminar in Structural Geology and Tectonics (3) Dennis**

Prerequisite: Upper division structural geology. Critical review of selected topics concerning the analysis, interpretation and origin of geologic structures, the mechanics of rock deformation and of large scale crustal deformation.

**540. Advanced Igneous Petrology (3) S Ehrreich**

Prerequisites: Geology 321, 423. Advanced study of the occurrence and petrogenesis of igneous rocks; laboratory will include microscopic study of selected rock suites and application of instrumental techniques to igneous rocks. (Seminar 2 hours, laboratory 3 hours.)

**541. Advanced Metamorphic Petrology (3) Ehrreich**

Prerequisites: Geology 321, 423. Advanced study of occurrence, origin and interpretation of metamorphic rocks; laboratory will include microscopic study of rock suites. (Seminar 2 hours, laboratory 3 hours.)

**550. Advanced Crystal Chemistry (3) Winchell**

Prerequisites: Geology 320A, 322. Seminars and laboratory in crystal chemistry emphasizing structural and chemical mineralogy, determinative methods, mineral synthesis and computer applications. May be repeated for credit with consent of instructor. (Seminar 2 hours, laboratory 3 hours.)

**555. Advanced Geochemistry (3) Walker**

Prerequisite: Consent of instructor. Methods of radiometric age determination including dating of igneous and metamorphic rocks and sediments; use of lead and strontium as natural tracers; light stable isotopes, oxygen, carbon and sulfur as petrogenetic indicators in igneous rocks and ore-forming processes. (Seminar 2 hours, laboratory 3 hours.)

**562. Chemical Oceanography (3) Chan**

Prerequisites: Physical and chemical oceanography and mathematics through the first course in calculus. Advanced studies in the lithosphere, atmosphere and biosphere. Critical review of literature and reports in chemical oceanography which may include chemical equilibria, chemical thermodynamics and inorganic and organic constituents of the ocean, emphasis on recent studies and new concepts.

**564. Advanced Marine Geology (3) Conrey**

Prerequisites: Upper division courses in marine geology, oceanography and consent of instructor. Studies in marine geomorphology, tectonics, sedimentation, stratigraphy, coastal development and allied topics.

**570. Special Topics in Geology (1-3) Grannell**

Prerequisite: Consent of instructor. Investigation of selected topics in geology. May be repeated for credit with consent of instructor as topic changes. Seminars with laboratories as appropriate.

**581. Seminar in Engineering Geology (3) Fritts**

Prerequisite: Upper division course in engineering geology or consent of instructor. Advanced study relating geologic factors to engineering projects, with emphasis on slope stability, subsidence, engineering seismology and construction problems related to engineering geology.

**697. Directed Research (1-3) F Fritts**

Prerequisite: Consent of instructor. Research on a specific subject in geology. Topic for study to be approved and directed by a staff member in geological sciences.

**698. Thesis (1-6) F Fritts**

Prerequisite: Consent of Graduate Advisory Committee. Either laboratory or field investigations, or both, for a total of six semester units to culminate in an approved thesis.

# German, Russian and Classics

## School of Humanities

**Department Chair:** Dr. Johanna W. Roden.

**Emeritus:** Graham K. Spring.

**Professors:** Bartenbach, Kendall, Malone, McKay, Pelters, Roden.

**Associate Professor:** Ctvrtlik.

**Credential Adviser:** Dr. Harvey Kendall.

**Undergraduate Adviser:** Dr. Johanna W. Roden.

**Graduate Adviser:** 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.

The Department of German, Russian and Classics offers graduate study leading to the master of arts degree in German. The candidate is urged to observe the general requirements stated in this *Bulletin*, as well as the specific departmental requirements. In all upper division and graduate level courses, German is the language used in all class discussion and written work.

**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, 301, 302, 401; 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 301, 302, 315, 316, six units of 401.

**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 301, 302, and 401.

**Master of Arts Degree with a Major in German (code 5-6813)****Prerequisites**

1. A bachelor of arts degree in German, or:
2. A bachelor's degree with a minimum of 24 units of upper division courses in German. These courses must be comparable to those required of a major in German at this University. Deficiencies will be determined by the adviser after consultation with the student and after study of transcript records.

**Advancement to Candidacy**

1. Approval of the graduate program by the graduate adviser, departmental committee, and the Dean of Graduate Studies.
2. The candidate may file for advancement to candidacy after she/he has filed a transcript of credits or a change of objective form, and completed the prerequisites.

**Requirements for the Master of Arts**

1. Completion of a minimum of 30 units of approved upper division and graduate courses with 24 units in German.
2. A minimum of 15 units in the 500 and 600 series in German.
3. A reading knowledge of French, Italian, Latin, Russian or Spanish. Another language may be substituted only under special circumstances.
4. A comprehensive examination unless department permission is granted to substitute a thesis.

**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**

German grammar review with further development of reading, writing and conversational skills.

201A. Prerequisites: German 101A-B or two years of high school German.

201B. Prerequisite: German 201A.

**Upper Division****301. Advanced German I (4) F, S Faculty**

Prerequisite: German 201B or equivalent. Intensive practice and the consolidation of the basic language skills: reading, comprehension, composition and conversation. Emphasis on reading, comprehension, vocabulary building and idiomatic usage.

**302. Advanced German II (4) F, S Faculty**

Prerequisite: German 201B or equivalent. Intensive practice and the consolidation of basic skills: reading, comprehension, composition and conversation. Emphasis on composition, oral reports and discussion.

**303. German Phonetics (3) F, S Faculty**

Prerequisite: Upper division standing in German or consent of instructor. General concepts of linguistic science. Linguistics applied to the study and teaching of the German language. Articulatory phonetics as a means to form native German pronunciation habits with emphasis upon the difficulties encountered by speakers of American English.

**305. German Conversation (3) F, 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 German to English (3) F, S Faculty**

Prerequisite: Upper division standing in German or consent of instructor. The preparation of translations from German texts of wide ranging subject matter.

**307. Business German I (3) F Pelters**

Prerequisites: German 101A,B or equivalent or consent of instructor. An advanced language and area study course acquainting students with the terminology of German business. Conversational approach to economic geography, political structures of German-speaking countries, forms of business and corporate organizations, transportation and traffic, banking and problems of industrial societies.

**308. Business German II (3) S Pelters**

Prerequisites: German 101A,B or equivalent or consent of instructor. An advanced language and area study course acquainting students with the terminology of business German. Written approach to business correspondence, management techniques, production, marketing, accounting and personnel management.

**315. Survey of German Literature and Culture I (3) F Faculty**

Prerequisite: Upper division standing in German. German literature from the Middle Ages to the time of Goethe as related to the other arts, to philosophy, and to 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 Romanticism to the present as related to the other arts, to philosophy, and to the social and political institutions of the time.

**398. Topics in German (3) F, S Faculty**

Prerequisite: Upper division 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.

**\*401. Advanced German Syntax and Composition (3) F, S Faculty**

Prerequisites: German 301, 302. Practice in developing a style and vocabulary suitable for the writing of reports and essays on cultural and literary topics. May be repeated to a maximum of six units.

**\*410. German Civilization (3) S Pelters, Roden**

Prerequisite: Upper division standing in German. Historical development of important German institutions, customs and thought.

**\*430. German Poetry (3) F Pelters**

Prerequisite: Upper division standing in German. German poetry from the Baroque to the present.

**\*441. German Novelle (3) F 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) F 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.

**\*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.

**470. German Literature in English (3) S Faculty**

Study of significant German writers, German literary movements or a specific literary genre in English translation.

**\*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) S Faculty**

Prerequisite: B.A. in German or equivalent. Intensive studies of etymological, phonological, morphological and syntactical aspects of the German language. May be repeated to a maximum of 12 units with different topics.

**511. Selected Topics in German Culture and Civilization (3) F, 1982 and alternate years Faculty**

Prerequisite: B.A. in German or equivalent. Intensive studies in special topics of the literary, artistic, intellectual, social, religious, economic and political development of the German speaking countries, as announced in the *Schedule of Classes*. May be repeated for credit, with different topics, to a maximum of 12 units.

**590. Approaches to the Study of German Literature (3) F, 1982 and alternate years Faculty**

Prerequisite: B.A. in German or equivalent. Evaluation of various methods in interpreting a literary work of art; different levels of interpretation; complexity of structure related to content; literary appreciation; introduction to bibliographical aids.

**652. Seminar in Medieval German Literature (3) S, 1982 and alternate years Faculty**

Prerequisite: B.A. in German or equivalent. Reading and analysis of Middle High German texts with an introduction to Middle High German grammatical forms and structures. Not open to students with credit in German 505.

**653. Seminar in a Century of German Literature (3) F, S Faculty**

Prerequisite: Corresponding 400/500 level century course or consent of graduate adviser. Topics dealing with literary trends, literary genres or individual authors. Intensive studies in one of the following: (a) 16th century, (b) 17th century, (c) 18th century, (d) 19th century, (f) 20th century. Courses may be taken concurrently. A century may be repeated once if topic studied is different.

**697. Directed Research (1-3) F, S Faculty**

Prerequisite: Consent of graduate adviser. Required of all candidates for the master of arts in German who do not choose to write a thesis.

**698. Thesis (1-4) F, S Faculty**

Prerequisite: Consent of graduate adviser. Planning, preparation and completion of a thesis. Does not count toward 30 units required for the M.A. degree.

**Russian****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.

**205A,B. Russian Conversation (3,3) F, S Faculty**

Designed for students who wish to acquire or review fundamental skills of beginning Russian for conversation.

**Upper Division****312. Advanced Russian (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.

**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 (3) F Faculty**

Prerequisite: Upper division standing in Russian. Development of literary writings from Pushkin to modern times. 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) F, S 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 as well as survey courses in etymology and classical archaeology. 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.

**Lower Division****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 in context. Not open to students with credit in either Latin 200 or Greek 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. Not open to students with credit in either Latin 201 or Greek 201.

**Upper Division****360. Greek Tombs and Treasures (3) F Faculty**

Survey of the major sites of ancient Greek archaeology, beginning with the Bronze Age, and concentrating, where applicable, on the interrelationships between finds from the major sites and accounts of the sites in classical literature.

**370. Roman Monuments (3) S Faculty**

Survey of the major sites of ancient Roman archaeology, beginning with the Iron Age, and concentrating, where applicable, on the interrelationships between finds from the major sites and accounts of the sites in classical literature.

**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. Understanding, reading and writing of ancient Greek at the intermediate level. Reading selections from representative authors, e.g., Demosthenes, Plato, Aristophanes.

**Upper Division****331. Greek Tragedy and Prose Composition (3) F, 1981 and alternate years McKay**

Prerequisite: Greek 222 or its equivalent. Translation and literary study of one or more specific plays of Aeschylus, Sophocles, or Euripides. Prose composition.

**332. Greek Lyric Poets and Prose Composition (3) S, 1982 and alternate years McKay**

Prerequisite: Greek 331 or consent of instructor. Translation and literary study of selected poems from the corpus, with emphasis on Sappho, Alcaeus, Archilochus, Anacreon and Simonides. Prose composition.

**351. Plato and Advanced Composition (3) F, 1982 and alternate years McKay**

Prerequisite: Greek 222. Translation and literary study of one or more dialogues of Plato. Advanced composition.

**352. Homer and Prose Composition (3) S, 1983 and alternate years McKay**

Prerequisite: Greek 351 or consent of instructor. Translation and literary study of select books of the *Iliad* or *Odyssey*. Prose composition. Not open to students with credit in Greek 342.

**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.

**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 more than two years of high school Latin.

**222. Intermediate Latin (4) S Faculty**

Prerequisite: Latin 221 or its equivalent. Understanding, reading and writing of Latin at the intermediate level. Reading selections from representative authors, e.g., Pliny, Tacitus, Catullus, Vergil, Ovid. Not open to students with more than three years of high school Latin.

**Upper Division****331. Vergil and Prose Composition (3) F, 1981 and alternate years McKay**

Prerequisite: Latin 222 or equivalent. Translation and literary study of Vergil's poetry. Advanced composition.

**332. Roman Comedy and Prose Composition (3) S, 1982 and alternate years McKay**

Prerequisite: Latin 331 or consent of instructor. Translation and literary study of one or more plays of Plautus or Terence. Prose composition.

**351. Roman Lyric Poets and Advanced Composition (3) F, 1982 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 Prose Composition (3) S, 1983 and alternate years McKay**  
Prerequisite: Latin 351 or consent of instructor. Translation and literary study of a representative work of Cicero. Prose 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 selected 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 standard transliterated alphabet and the devanagari alphabet. Introduction to Sanskrit grammar. Translation and explanation of selections from the epic poem, Mahabharata.

**332. Intermediate Sanskrit (3) S McKay**  
Prerequisite: Sanskrit 331. Continuation of Sanskrit 331. More extensive coverage of Sanskrit grammar. Translation and explanation of Sanskrit epic poetry.

**341. Advanced Sanskrit (3) F McKay**  
Prerequisite: Sanskrit 332. Translation and explanation of selections from the Upanishads.

**342. Vedic Sanskrit (3) S 1982 McKay**  
Prerequisite: Sanskrit 341. Translation and explanation of selected hymns from the *Rig Veda*.

### Hebrew

#### Lower Division

**101. Introductory Hebrew (4) F, S Faculty**  
Hebrew alphabet, essential facets of grammar, reading, writing, mastery of basic vocabulary.

#### Upper Division

**499. Directed Studies (1-3) F, S Avni**  
Prerequisite: Consent of instructor. Independent study under the supervision of a faculty member.

# Gerontology

## School of Applied Arts and Sciences

**Director:** Dr. Dorthy L. Forna.

**Associate Professors:** Gattas, Hamilton, Harmon, Kelly, Shermis.

### Certificate Program in Gerontology

Gerontology is the scientific study of the processes and phenomena of aging which includes biological, psychological and sociological dimensions. Resources from many departments of the University will focus upon education and training programs at the baccalaureate, graduate and continuing education levels. Purpose of the multidisciplinary program is to train individuals as specialists in gerontology within a major area of study to serve in community programs, health service organizations, governmental agencies and private programs in gerontology.

Areas currently offering courses in gerontology are Anthropology, Communicative Disorders, Educational Psychology, Finance, Health Care Administration, Health Science, Home Economics, Marketing, Nursing, Physical Education, Physical Therapy, Political Science, Psychology, Recreation, Social Welfare and Sociology.

The Certificate in Gerontology may be earned in conjunction with a baccalaureate or master's degree. Courses offered for the certificate may be the same ones used to satisfy, where applicable, major, minor, or credential requirements.

#### Requirements for the Certificate in Gerontology

1. A bachelor's or master's degree
2. 24 units distributed as follows:  
Required courses (12 units): Gerontology 400, Biology 401, Psychology 365 or Human Development 357, Sociology 464.
3. A minimum of six units chosen in consultation with the director from a list of supporting courses.
4. Independent study on a topic related to gerontology (three units).
5. Approved field experience in adult service setting (three units).
6. Consultation and approval of the program with the director for gerontology.

Certification of successful completion of the Certificate in Gerontology will be recommended by the director.

Interested students should apply to Dr. Dorothy L. Forna, School of Applied Arts and Sciences, P.E. 326, 498-4056.

**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.

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



# Health Care Administration

## School of Applied Arts and Sciences

**Director:** Dr. Robert E. Tumelty.

**Professor:** Tumelty.

**Undergraduate Adviser:** Dr. Robert E. Tumelty.

The Health Care Administration program has four major objectives: (1) to provide course work and related experiences in order to prepare generalist administrators skilled in the application of organizational and managerial techniques to the health care system; (2) to provide continuing education for health administrators in practice and others in administrative and leadership positions in the organization and delivery of health services; (3) to consult and to participate in community service activities which complement the instructional and research functions of the faculty and provide appropriate learning experiences for students; and (4) to conduct studies in the administration and operation of the health care delivery system which will contribute to development of faculty teaching abilities and overall professional growth.

The program is designed for the professional administrator or those who wish to become administrators within a health care setting. An External Bachelor of Science in Health Care Administration, administered in cooperation with the Consortium of The California State University and Colleges, is offered.

### External Bachelor of Science in Health Care Administration (code 3-1205)

This external degree program is conducted in cooperation with the Consortium of The California State University and Colleges. It is a program designated for adult Californians whose geographic location, personal circumstances, or work schedule limits their ability to enroll at one of the campuses of the system.

A student must complete a total of 124 semester units to be eligible for the B.S. degree in Health Care Administration. A total of 45 units of core course work at the upper division level is required of all students, as follows:

1. Introduction to Health Care Delivery (six units)
2. Human Needs (12 units)
3. Providers of Health Care Services (four units)
4. Personnel, Financial, and Facility Aspects of Health Care Administration (12 units)
5. Patient Programs (eight units)
6. Pro-Seminar in Health Care Administration (three units)

In addition, all remaining units necessary for graduation will be considered general electives. The number of elective units may be reduced if the student needs prerequisite or support course work.



To be admitted to this upper division program, a student must have completed a minimum of 56 semester units (84 quarter units), or the equivalent in transferable credit from an accredited institution, with a grade point average of 2.0 or higher.

Admission to the program requires a separate application which is available on campus, or from the Registrar, the Consortium of The California State University and Colleges, 400 Golden Shore, Long Beach, California, 90802.

#### Certificate in Health Care Administration

The Certificate Program in Health Care Administration is interdisciplinary and is comparable to a minor of 27 semester units and with prerequisite course work, may require a maximum of 33 semester units for completion.

It has four components: the forms of organization and operation of health care systems, administration and management of these systems, social and environmental factors in health and disease, analysis and evaluation.

The certificate program may be combined with major programs from a variety of fields to include natural and behavioral sciences, humanities, health fields, business, and public administration. Health care administrators are usually prepared at the master's degree level for job entry and such persons are employed in organizations such as acute and long-term care hospitals, health departments, health planning and coordinating agencies and the like. The intent of the Certificate Program is to introduce students to the professional field, and to provide enrichment and preliminary course work for those who desire to pursue the requisite academic preparation for the health care administration field.

Interested students should contact the Director, Health Care Administration program.

#### Requirements for the Certificate in Health Care Administration

1. A bachelor's degree.
2. Consultation with the Director of the program.
3. Twenty-seven units and with prerequisite course work may require a maximum of 33 units. Substitutions may be made with the consent of the Director.
  - a. *Forms of Organization and Operation* (three units)  
Health Care Administration 400.
  - b. *Administration and Management* (twelve units)  
Political Science 334 or Management 303, Accounting 202, Economics 445, Management 300.
  - c. *Social and Environmental Factors in Health and Disease* (six units)  
Microbiology 361, Anthropology 353, or Sociology 462.
  - d. *Analysis and Evaluation* (six units)  
Health Care Administration 465, 470.

In this component the student is introduced to analysis and evaluation, followed by the proseminar. The major purpose is to produce a significant written research report to be reviewed by relevant faculty. The two courses must be taken in sequence or concurrently with the consent of the Director.

#### Advisory Group

The major purpose of the advisory group is to review and consult on the development and operation of the program. Students may wish to meet with members of the group when their major field or interests coincide with the faculty members' interests.

Donald A. Beegle, Professor of Health Science  
 Mary Lou Larmore, Associate Professor of Economics  
 John McConnell, Associate Dean for Academic Affairs, School of Applied Arts and Sciences (ex-officio)  
 Joseph Rocha, Assistant Professor of Political Science  
 Joseph N. Rosenfield, Director of Review, Orange County Health Planning

Council (Part-time faculty)

Martha Siegel, Associate Professor of Nursing

Peggy Smith, Associate Professor of Sociology

Robert J. Smith, Associate Professor of Management

#### 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.

##### 411. Problems and Issues in the Health Care System (3) F,S Faculty

Prerequisite: Health Care Administration 400 or consent of instructor. Introduces broad-based issues and concerns within the field. Brings the student into active dialogue and discussion with leaders and representatives of health-related organizations and agencies.

##### 440. Legal Aspects of Health Administration (3) F,S Faculty

Focus on the nature, perspective and objects of the legal and legislative process. Provides skill in understanding legal terminology, legal reasoning and the tools of the law, with practical application of these principles and concepts to health care management and health policy decisions.

##### 445. Health Planning: Analysis and Resource Allocation (3) F,S Faculty

Planning process applied to the health care field within a systems approach. Theory and philosophy of planning with consideration of concepts and techniques in analysis, review, goal-setting, organization, regulation and control, community involvement, evaluation and resource development.

##### 450. Quality Assurance of Health Care (3) F,S Faculty

Designed for the health care professional or administrator who is involved in or concerned about assurance of quality in health care. Course includes historical beginnings, state-of-the-art, voluntary and governmental effort and proposed means to quality assurance.

##### 465. Analysis and Evaluation of Health Care Services (3) F,S Faculty

Prerequisites: Introductory course in statistics, consent of instructor. Techniques of analysis and evaluation applied to health services with respect to organizing, staffing, financing and utilization. Emphasis on the analytic process, program evaluation and report of findings.

##### 470. Proseminar in Health Care Administration (3) F,S Faculty

Prerequisite: Health Care Administration 465 or consent of instructor. Integrative experience which focuses on the student's ability to apply the concepts of health care administration as demonstrated by the development and defense of a research paper.

##### 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 Director of Health Care Administration Program.

Graduate Division

**630. Seminar in Health Care Administration (3) F,S Faculty**

Prerequisite: Consent of instructor. Advanced study and exploration of selected aspects in the organization and administration of the health care system through in-depth analysis of contemporary health care administrative theory and practice.

# Health Science

## School of Applied Arts and Sciences

**Department Chair:** Dr. Peter A. Cortese.

**Professors:** Beegle, Cortese, Kaywood, Pollock, Torney.

**Associate Professors:** Burhans Stipanov, Campbell, Irwin, Lussier.

**Assistant Professor:** Burhans.

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

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

**Undergraduate Advisers:**

Health Science: Dr. Peter A. Cortese.

Safety Education: Dr. Richard Kaywood.

**Graduate Adviser:** Dr. Marion B. Pollock.

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.

The master of science program is designed to provide students with (1) intensive study of health education concepts, theories and processes; and (2) research methodology, including skills in interpretation and application of research data to the solution of specific individual and community health problems. The graduate is also prepared for (3) leadership role in a school or community setting and for admission to doctoral programs at other colleges and universities.

**Each applicant should request a copy of the official transcript of all work be sent to the graduate adviser in the Health Science Department in addition to the copies required by the Office of Admissions and Records.**

**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.

*Upper Division:* Health Science 403, 409 or 420, 421, 422 or 423, 425, 427, 430, 440; Safety Education 320 or 330; 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; Sociology 142.

*Upper Division:* Health Science 400, 401, 403, 430, 485; Safety Education 320; three courses selected from the following: Health Science 420, 422, 423, 425, 427; 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; Physics 100A or 104; Psychology 100.

*Upper Division:* Civil Engineering 429; Instructional Media 300; Educational Psychology 305; Health Science 421, 427; Safety Education 320, 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 320, 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 422 or 423, 425, 427, 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.

*Upper Division:* Industrial Technology 307; Safety Education 320, 321, 321L, 422, 422L, 423, 423L; 7 units of electives selected from the following: P.E. 248, Health Science 427, C.E. 429, Safety Education 335, Industrial Arts 161.

**Master of Science Degree with a Major in Health Science (code 6-1211)****Prerequisites**

1. A bachelor's degree with a major in health science from an accredited college or university, or;
2. A bachelor's degree with a minimum of 24 units of upper division courses comparable to those required of a health science major at this University.
3. Students deficient in undergraduate preparation must take courses to remove these deficiencies at the discretion of the department graduate adviser.
4. An overall undergraduate grade point average of 2.5 and an upper division health science major grade point average of 3.0.

**Advancement to Candidacy**

1. Satisfy the general University requirements for advancement to candidacy.
2. Approval of the department graduate adviser and the Director of Graduate Studies and Research, School of Applied Arts and Sciences.

**Requirements for the Master of Science**

1. A minimum of 31 units of approved upper division and graduate courses.
2. A minimum of 22 units of health science courses of which 18 units must include Health Science 508, 570, 581 and 696; and at least two of the following: Health Science 501, 516, 625, 626, 627 and 628.
3. A thesis, Health Science 698, and an oral examination over the thesis.

**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****301. Orientation to Health Science (3) F, S Lussier**

Overview of the philosophy of the Health Science Department. Orientation to the degree requirements, career opportunities, and the theoretical and practical issues of health education as a profession. Must be taken prior to Health Science 401 and 430.

**\*400. Determinants of Disease Prevalence in Man (3) F Beegle, Horowitz**

Prerequisite: Health Science 403. 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.

**\*403. Community Health Statistics (3) F, S Beegle, Horowitz**

Concepts and procedures of statistical analysis in community health. Not open to students with credit in Health Science 300. (Lecture 2 hours, laboratory 2 hours.)

**409. 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. Not open to students with credit in Health Science 320.

**411. Health Science for Teachers (3) F, S Burhans Stipanov, Cortese, Horowitz, Irwin, Koser**

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. Please note that some sections are designated for those who plan to earn a secondary credential while others are for those working toward an elementary credential.



**\*420. International Health (3) S Faculty**

Analysis of current health problems in the world; examination of contributing social, psychological, physical, legal and cultural factors; international programs for the improvement of world health; structure and functions of world health agencies and organizations.

**\*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.

**422. Environmental Health (3) F,S Horowitz, Lussier**

Factors in man's physical environment which may exercise a deleterious effect on his physical development, health and survival. Not open to students with credit in Health Science 322.

**423. Consumer Health (3) F,S Campbell, Koser**

Quackery and fraudulent health practices; protection agencies; laws protecting consumer health; criteria for selecting health information, products and services, and medical care services. Not open to students with credit in Health Science 321.

**425. Human Sexuality and Sex Education (3) F,S Burhans Stipanov, Campbell, Koser**

Bio-medical, sociological, and psychological aspects of human sexuality, the communication of sexual information, the implementation, content and evaluation of family life and sex education in the schools. Not open to students with credit in Health Science 325.

**427. Drugs, Health and Society (3) F,S Burhans Stipanov, Irwin, Torney**

Study of psychoactive drugs with preliminary attention to alcohol, nicotine, caffeine, cannabis, hallucinogens, narcotics and other drugs; examination of trends, philosophical issues and behavioral practices associated with drug use and dependence. Includes psycho-social, legal, historical, philosophical and political aspects; treatment-rehabilitation activities and programs; and drug abuse prevention education. Not open to students with credit in Health Science 327.

**\*430. School Health Program (3) F,S Burhans Stipanov, Cortese, Pollock**

Intensive analysis of the philosophy, organization and legal aspects of the school health program; includes school and community coordination for a team approach to health education for the school age individual.

**\*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; development of appropriate curriculum based upon an analysis of individual, school and community needs and interests.

**\*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) F,S 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.

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**Graduate Division****501. Public Health Organization (3) F Beegle**

Prerequisite: Undergraduate major in health science or related field. Analysis of the components of public health from an historical, organizational and administrative perspective. Topics to include organization of health care delivery, financing health care, health care planning, evaluation of health care systems and analysis of contemporary public health issues.

**508. Administrative Relationships in Health Education Programs (3) F Pollock**

Prerequisite: Undergraduate major in health science or related field. Introduction to administrative theory; investigation of administrative responsibilities and functions implicit in school health or other health education programs.

**516. Patient Health Education (3) S Faculty**

Prerequisite: Undergraduate major in health science or related field. Process involved in planning and implementing patient health education programs in both outpatient departments and clinics as well as with patients in hospitals and long-term care facilities.

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

Identification and analysis of current trends, philosophies and issues in health science.

**581. Curriculum Development and Evaluation in Health Education (3) S Pollock**

Prerequisites: Health Science 430, 440. Principles of curriculum development; selection and evaluation of resource materials; theory and practice in measurement in health education.

**625. Seminar in Sex Education (3) F Campbell**

Prerequisite: Health Science 425. Identification and critical analysis of current research and educational practices in selected areas of sex education.

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

Prerequisite: Health Science 409. Identification and critical analysis of current research and practices in selected areas of preventive medicine and public health.

**627. Seminar in Stimulants and Depressants (3) S Torney**

Prerequisite: Health Science 427. Identification and critical analysis of current research and practices in selected areas of stimulant and depressant drug use and abuse.

**628. Seminar in Consumer and Environmental Health (3) S Lussier**

Prerequisite: Health Science 422 or 423. Identification and critical analysis of current research and practices in selected areas of consumer and environmental health.

**696. Research Methods (3) F,S Pollock**

Prerequisites: Undergraduate major in health science or related field, undergraduate course in statistics. Introduction to research methodology in the area of health science.

**697. Directed Studies (1-3) F,S Pollock**

Prerequisite: Advancement to candidacy. Independent investigation of research problems in health education.

**698. Thesis (1-4) F,S Pollock**

Prerequisites: Health Science 696, advancement to candidacy. Planning, preparation and completion of an approved thesis.

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### Safety Education Upper Division

- 320. Principles of Accident Prevention (2) F, S Kaywood, Probst**  
Accident prevention in the home, at school, on the job and in the community.
- 321. Driver and Traffic Safety Education I (2) F, S Faculty**  
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 Faculty**  
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 students with credit in Safety Education 325.
- 330. Elementary and Secondary School Safety (2) F Faculty**  
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) SS 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) F, S 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.

# History

## School of Social and Behavioral Sciences

**Department Chair:** Dr. Jack Stuart.

**Emeriti:** Robert W. Frazer, Raymond E. Lindgren, Halvor G. Melom, David A. Williams.

**Professors:** Abou-El-Haj, Abrahamse, Ahlquist, Asher, Bernstein, Black, Boutelle, Burke, Cerillo, Furth, Gosselin, Hardeman, Higgins, Hood, Kimball, Lipski, McFaul, Nichols, Peters, Polakoff, Ragland, Raun, Sater, Springer, Stuart, Svec, Walzer, Weber, Wilde.

**Associate Professors:** Berk, Buchanan, Collins, Gunns, Sievers.

**Credential Adviser:** Dr. Irving Ahlquist.

**Coordinator, Social Science Certificate Program:** Dr. Irving Ahlquist.

**Minority Adviser:** Dr. David Hood.

**Graduate Coordinator:** Dr. William Weber.

**Undergraduate Coordinator:** Dr. Jack Stuart.

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 Department of History offers graduate study leading to the master of arts degree. The candidate is responsible for the observation of the general requirements stated in this *Bulletin* as well as the specific departmental requirements stated here and, more fully, in the *Master of Arts Brochure*, available from the History Department office upon request.

Graduate assistantships and departmental reader positions are sometimes available for qualified persons. The graduate assistant works closely with a member of the graduate faculty, but is not responsible for instruction.

### 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, with approved petition, 501. (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, 313, 314, 316, 317, 318A, 318B, 332, 333, 334, 351, 353, 432A. (3) Non-Western History: 181, 182, 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, 181 and 182.

*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 with a Major in History (code 5-8525)

#### Prerequisites

1. A bachelor's degree with a major in history or:
2. A bachelor's degree with 24 units of upper division courses in history. These courses must be comparable to those required of a major in history at this University. Deficiencies will be determined by the graduate adviser after consultation with the student and after study of transcript records.

#### Advancement to Candidacy

1. Students are advanced to candidacy when they have completed enough of the requirements for the degree to be able to set a date and a committee for their comprehensive examinations, *and* plan the completion of their required courses. Advancement *must* take place before the end of the semester preceding the examinations. At the time of advancement a student must either have already taken History 301 or equivalent, or presently be enrolled in it.
2. Students writing a thesis are advanced at the time that they begin thesis work.

### Requirements for the Master of Arts

1. A minimum of 24 units of upper division and graduate courses in history, including History 501, History 590, at least one 600-level seminar, and a minimum of six additional units in the 500/600 series; a choice between the two following options:
  - (a) A minimum of 15 units in one of the following fields: Ancient-Medieval, Modern Europe (including Britain and Russia), United States and Asia including at least one 500-level seminar in this field and at least one additional 500-level seminar outside the field, or
  - (b) A minimum of nine units in each of two fields (as defined above), including at least one 500-level seminar in each.

History 695 or 697 (graduate courses involving directed and individual study) may be applied toward the 15 units of 500/600 courses only with the approval of the graduate adviser.

Upon consent of the graduate adviser and participating faculty from the area and using History 695 and 697, a student may propose a field offered at the undergraduate level but not included in the graduate program.

2. A reading knowledge of German, French or other foreign language may be required, depending upon the candidate's program of study as recommended by her/his graduate committee.
3. Six additional units of upper division or graduate courses in history or closely allied fields.
4. A comprehensive written examination in history, unless permission is given by the History Department to substitute a thesis for this requirement.

#### Lower Division

#### 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.

**181. 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. Same course as Asian Studies 100. Not open to students with credit in History 181A.

**182. 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. Same course as Asian Studies 101. Not open to students with credit in History 181B.

**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. Methodology of History (3) F, S Faculty**

Required of all history majors in the first semester of upper division work. How historians ask interpretive and methodological questions and how these questions are answered intellectually and technically (including bibliography, structure and writing). Practice in the use of primary sources, reconstruction of events and presentation of findings. Preparation and analysis of written student exercises.

**Ancient and Medieval****\*313. Ancient Greece (3) F, S Hood**

History of the Greeks and the Greek world from the earliest times to the Roman Conquest.

**\*314. Roman History (3) F, S 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.

**\*351. Medieval England (3) S Boutelle**

Analysis of English political institutions, society, religion and economy in the Anglo-Saxon, Norman, Plantagenet and late medieval eras.

**\*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****\*331. Jewish History (3) F Eisenman, Springer**

A survey of Jewish history from early times to the present. Subjects such as the Babylonian captivity; the fall of the Temple; the rise of Rabbinic Judaism; the dispersion; the impact of anti-Semitism; Jewish community and intellectual life in the Middle Ages; emancipation from the ghetto; political movements; the Holocaust; Israel. Same course as Religious Studies 316.

**\*332. The Age of Renaissance (3) F Gosselin**

Early modern period. Economic decline and shifts in entrepreneurial 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 Asher, Lipski**

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 Springer, Weber**

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 Springer**

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-Ei-Haj, 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 Abou-Ei-Haj, Raun, 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-Ei-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 Raun**

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 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 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) 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.

**\*451. British Empire and Commonwealth (3) S Wilde**

Topics in British Empire and Commonwealth history in two basic formats: (1) comparative studies of major Commonwealth nations, e.g., South Africa and Canada; (2) the rise and fall of the British Empire examined in the light of various theories of imperialism, neo-colonialism and economic development. May be repeated for a maximum of six units if topics dealt with are different.

**455. English Constitutional and Legal History (3) F Wilde**

Origin and development of the Common Law and of the English constitution and its elements—monarchy, Parliament, Church and courts—in medieval and early-modern times.

**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.

**\*375. The Romantic Revolution in America: 1800-1860 (3) F,S Bernstein, McFaul**

The emergence of a new American character based upon the romanticized ideals of freedom and individualism; the search for utopianism and perfectionism amidst social anxiety; the conflict between agrarianism and capitalism; the heritage of Jeffersonianism and the revolutionary politics of Jacksonianism; the romance and mythology of new frontier; the social and political crisis created by an expanding slave empire.

**\*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. The United States in the 1930's, World War II and After (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.

**\*468. Local History: Communities (3) F,S Faculty**

Description and analysis of selected communities within the greater Los Angeles-Long Beach area from an historical perspective, with emphasis on population and migration patterns, the development of economic forces shaping the area and techniques of local history. Specific focus will be announced in the *Schedule of Classes*.

**\*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 American Political Parties (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), from the 1850's to the present, one-party interlude of 1820s, important role played by minor parties (Antimasons, Prohibitionists, Populists, Progressives, American Independents); 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**

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.

**473. California History (3) F,S Hardeman, Peters**

Survey of California history from the arrival of Europeans to the present, with emphasis on significant social, political and economic 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. History of Business in the United States (3) S Black**

Institutional development of the American business firm and the changing role of entrepreneurs and managers in American society.

**\*477A,B. American Cultural History (3,3) F,S Berk, Higgins, Stuart**

Development of American way of life treated in terms of values, behavior and institution, themes of individualism, community, ethnic diversity and social reform. Required of American Studies majors. Same course as American Studies 477A,B.

**\*478A. Early Diplomatic History of the United States (3) F Peters**

Foreign relations from the American Revolution to the Spanish-American War. Special attention given to isolationism and the Monroe Doctrine, expansionism and manifest destiny, Civil War, the Open Door and the Far East, and the war with Spain.

**\*478B. Recent Diplomatic History of the United States (3) S Peters**

Foreign relations from the turn of this century to the present. Special attention given to neutrality and the two world wars, cold war, ordeals of the 50's and 60's, competitive coexistence and continuing world crises.

**\*479A,B. Constitutional History of the United States (3,3) F,S Burke**

Development of the American constitution from the 17th century to the present. Colonial heritage, impact of the Revolution, the framing period, the evolving role of the judiciary in defining powers and limits in government, slavery issue, judicial review and due process, war powers, growth of the presidency, civil rights and the modern court. Special emphasis is on constitutionalism as a working ideal in American thought and institutions.

**\*482. The American Religious Experience (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 Women in the United States (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. Topics in Legal History of the United States (3) F Burke**

Case studies in American law from colonial times to the present: English common law heritage, puritan and frontier influences, the legal profession, judicial traditions, formative stages in criminal law, torts and contracts, and modern trends in legal thought. May be repeated with different topics to a maximum of six units.

**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. Social and Intellectual Change in Recent Japan (3) F, alternate years Sievers**

Overview of social and intellectual change in Japan from the Meiji Restoration to the contemporary period seen through historical documents, literature and film.

**\*488. The Chinese Revolution (3) F, alternate years Furth**

Prerequisite: History 181B or 382B or consent of instructor. Theory and practice of revolutionary socialism in the Peoples Republic of China, historical and ideological background of the Chinese revolution, Mao and Maoism, politics, culture and society in China.

**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****\*304. The Hero in History (3) F, S Faculty**

The concept of the hero is used to analyze the values of particular societies or historical epochs using interdisciplinary approaches. Some attention is paid to the differing notions that historians have had as to the role and significance of the hero as historical actor. Specific emphases will vary by instructor and will be posted in advance.

**\*305. The Family in History (3) F Abrahamse, Furth, Weber**

History of the family from the medieval period to the twentieth century, with emphasis on its changing economic, social and emotional functions. The historical development of women's roles, childhood, marriage patterns, domestic labor and extended family relations will be considered, with special attention to contrasting developments during different historical periods and within different civilizations. Emphasis will vary as between Europe, the U.S. and East Asia but with special attention to the early modern era. Students will have the opportunity to work on a family history project.

**\*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.

**\*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.

**407. Japan and the United States in the 20th Century (3) S Sievers**

Examination of relationships between Japan and the United States, emphasizing cultural, economic and political conflict and cooperation.

**General****\*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.

**Graduate Division****501. Theories and Methodologies of History (3) F**

The development of history as a discipline, major schools of historical interpretation, and recent developments in analysis and theory. Emphasis will be placed on the interrelationships of history with other disciplines in the social sciences and humanities. Required of all graduate students.

**510. The Literature of History (3) F Faculty**

Reading and discussion of major works and intensive study of bibliography and bibliographical aids. May be repeated for a maximum of six units in (a) Ancient and Medieval, (b) Modern European (including Britain and Russia), (c) United States, (d) Asian.

**590. Readings in Special Topics (3) F**

Prerequisite: Consent of instructor. Selected themes in history involving cross-cultural and comparative approaches. May be repeated for a maximum of six units.

**611. Seminar in Ancient and Medieval History (3) F,S Faculty**

Prerequisites: Six units of upper division ancient or medieval history or consent of instructor. Selected topics in ancient or medieval history. May be repeated for a maximum of six units.

**631. Seminar in European History (including Britain and Russia) (3) F, S Faculty**

Prerequisite: Consent of instructor. Directed reading and research in the political, economic, social and cultural history of Europe. May be repeated for a maximum of six units.

**673. Seminar in United States History (3) F,S Faculty**

Prerequisites: Six units of upper division United States history. Selected topics in domestic or international affairs from colonial times to the present. May be repeated for a maximum of six units.

**682. Seminar in East Asian History (3) F Faculty**

Prerequisites: Six units of upper division Asian history or consent of instructor. Selected topics in East Asian history. May be repeated for a maximum of six units.

**695. Directed Readings (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Readings on an individual basis.

**697. Directed Research (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Research on an individual basis.

**698. Thesis (1-4) F,S Faculty**

Planning, preparation and completion of non-curricular work in history for the master's degree.

# Home Economics

## School of Applied Arts and Sciences

**Department Chair:** Dr. Bonnie J. Rader.

**Emeriti:** Zelpha Bates, Grace E. Dinerstein, Merna A. Samples, Marion A. Wharton.

**Professors:** Buckner, Hoff, Kefgen, Lare, Rodriguez.

**Associate Professors:** Dempster-McClain, Hamilton, Jacob, Moore, Rader, Vanderwarf.

**Assistant Professors:** Baker, Kim.

**Credential Adviser:** Mrs. Mabel S. Moore.

**Undergraduate Advisers:**

Child and Family Development: Ms. Donna I. Dempster-McClain

Dietetics and Food Administration: Dr. Mildred S. Rodriguez.

Education: Mrs. Mabel S. Moore.

Environmental Factors: Mrs. Joan Hoff.

Family Finance, Management and Consumer Services:

Mrs. Arlene A. Hamilton.

Textiles and Clothing: Ms. Mary F. Kefgen.

**Graduate Adviser:** Mrs. Arlene A. Hamilton.

**Graduate Committee:** Hamilton, Rader, Rodriguez.

The Department of Home Economics offers programs of study leading to the bachelor of arts, bachelor of science and master of arts degrees.

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 and family development; 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 (a) general dietetics, (b) clinical nutrition, (c) community nutrition and (d) food systems management. In fall, 1976, the American Dietetic Association approved the department program for meeting criteria under Plan IV. Requirements for membership also include completion of a qualifying internship, or an equivalent experience, approved by the American Dietetic Association.

**Home Economics in Extension Service.** A general home economics program of study is planned. Courses in business, speech, journalism, radio and television are desirable.

**Home Economics in Community Service.** A general home economics program prepares students for career opportunities in health, welfare and 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.

The master of arts degree in home economics provides the opportunity for students to:

1. Expand competence in the general field of home economics or pursue greater depth of academic study in one or two of the following areas: child and family development; environmental factors: housing and interiors; family finance management and consumer sciences; food and nutrition; and textiles and clothing.
2. Complete a master's degree and a teaching credential concurrently.
3. Complete a master's degree and specific requirements for American Dietetic Association membership concurrently.
4. Increase competence in subject matter areas in preparation for college teaching, administration and graduate study beyond the master's degree.

#### 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 107 or 207; 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 (if 200 and 201 were not taken); English 300 or 317 (if English 101 was not taken); Home Economics 312, 321 and three units in 400 or 488 or 490 or 493 or 499.

Students shall select a program of study in consultation with a faculty advisor and with departmental approval. Advisement materials are available in the Home Economics Department office. Programs of study and additional course requirements are:

#### General Home Economics

Chemistry 300 or 327; Home Economics 111, 232, 241, 251, 254, 323, 327, 342, 353, 412, 413 and 486. Electives should be chosen for greater depth or breadth in home economics and related professional area.

#### Business and Consumer Services

Accounting 201 or 202; Home Economics 232, 241, 251, 323, Marketing 300. A minimum of 12 units from one of the following groups:

**Consumer Services and Financial Counseling:** Home Economics 327, 421, 426, 486; Marketing 490; plus electives.

**Fashion and Home Furnishings Merchandising:** Home Economics 143, 254, 353, 451 plus electives.

**Food Industries:** Home Economics 235, 332, 333, 432; Chemistry 300 or 327; Microbiology 210; plus electives.

**General and Appliance Merchandising:** Home Economics 235, 327, 353, 421; plus electives.

#### Child and Family Development

Home Economics 111, 232, 311 or 314, 411, 412, or 413 and 414. The student must select 15 units from Home Economics 323, 416, 418, 419, 433, 440 or from courses listed above. A minimum of 9 units must be selected from related disciplines.

#### Environmental Factors: Housing and Interiors

**Housing:** Home Economics 142, 241, 342. The student must select 15 additional units in Home Economics and a minimum of 14 elective units from supporting disciplines.

**Interiors:** Home Economics 142, 241, 342. A minimum of 26 units are required from selected Home Economics, Art and Industrial Arts courses, plus a minimum of 14 electives from supporting disciplines.

#### Home Economics Education

Chemistry 300 or 327; Home Economics 111, 232, 235, 241, 251, 254, 323, 327, 331, 333, 342, 353, 412 or 413; plus electives. Candidates for the Ryan Single Subject Credential must take professional education requirements.

#### Textiles and Clothing

Home Economics 241, 251, 254, 353, 357, 451, 453, 454; Marketing 300, Physics 104, Speech 130 or 334 or 335. The student should select a minimum of nine units from home economics or supporting professional courses.

#### 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.

**Program of Study:** Students may elect a program in general dietetics, clinical nutrition, or community nutrition. Those interested in food service management should follow the program of study for food systems management. Copies of these programs of study are available in the Home Economics office. All programs fulfill academic requirements for membership in the American Dietetic Association. Students are advised to obtain information regarding the qualifying experiences required for ADA membership in addition to the academic courses included in the curriculum.

#### Minimum Course Requirements:

**Natural Sciences:** A minimum of 20 units selected by advisement from Biology 207 or 208 and 209; Chemistry 111A and 327 or 200 and 300; Chemistry 448 or 441A-B and 449; Microbiology 210; Physics 104.

**Social Sciences:** Anthropology 120 or Sociology 100; Economics 200 and 201 or 300; Psychology 100.

**Supporting Professional Courses:** English 100 and 101 or 300 or 317; Mathematics 102 or competency demonstrated by the Math Placement Test; Educational Psychology 305; Management 300 or 303; Quantitative Systems 240; Educational Psychology 419 or Health Science 300 or Quantitative Systems 310; Human Resources Management 361 or Psychology 381.



*Home Economics*: 232, 234, 235, 312, 321, 331, 332, 333, 486 and three units in 400 or 490 or 499. A total of 40 units in home economics must be completed with no less than 24 units taken at the 300-400 level. A total of 128 units must be completed for the bachelor of science degree.

### 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, 311 or 314, 411, 412 or 413, 414, 416, 418, 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 Child and Family Development faculty, Home Economics Department.

### Master of Arts Degree with a Major in Home Economics (code 5-1020)

Each applicant should request a copy of the official transcript of all college course work be sent to the graduate adviser in the Home Economics Department in addition to the copies required by the Office of Admissions and Records.

#### Prerequisites

1. A bachelor's degree with a major in home economics, or:
2. A bachelor's degree with a minimum of 24 units of upper division courses in home economics.
3. A minimum undergraduate 2.5 overall grade point average and 2.75 in home economics.
4. Students deficient in undergraduate preparation must take courses to remove these deficiencies at the discretion of the advisers after consultation with the student and faculty in the specified subject matter area. Students may request credit by examination for prerequisites completed more than seven years previously.

#### Advancement to Candidacy

1. Satisfy the general University requirements for advancement to candidacy.
2. Registered for or have completed Home Economics 696.
3. Approval of the department graduate adviser and Director of Graduate Studies and Research, School of Applied Arts and Sciences.

### Requirements for the Master of Arts

1. Completion of 30 units of approved upper division and graduate courses with a minimum of 21 units in home economics.
2. At least 15 units of 500/600 level courses in home economics including Home Economics 696 (3 units).
3. A thesis, Home Economics 698, and oral thesis presentation or a comprehensive examination.
4. An approved course in statistics.

### Lower Division

#### 100. Introduction to Home Economics (1) F, S Faculty

History, development and professional career opportunities in the field of home economics. Open to lower division students only or consent of instructor. (Lecture 1 hour.)

### Upper Division

#### \*400. Internship in Home Economics (3) F, S Hamilton

Prerequisites: Senior standing, consent of instructor. Field experience of 120 hours in which the student assumes a self-directed, responsible role in an agency, business or other community setting with professional supervision, consultation and evaluation. Placement must be approved by instructor and may be repeated to a maximum of six units.

#### \*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 Moore

Prerequisite: Home Economics 323 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 Faculty

Prerequisites: Upper division standing, consent of instructor. Independent study under the supervision of a faculty member. Exploration and experience in areas which are not a part of any regular course. May be repeated for a maximum of six units with consent of department chairperson.

#### \*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 Faculty**

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 Faculty**

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 Faculty**

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) S 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 Faculty**

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 and Guidance (3) F, S Dempster**

Prerequisite: Upper division standing, Home Economics 311 or 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 Faculty**

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 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) F 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 Faculty**

Basic concepts and techniques of applied art including media, presentation methods and visual communication. (Lecture-laboratory 6 hours.)

**142. Housing Design (3) F, S Faculty**

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 life space and life style. (Lecture-laboratory 6 hours.)

**143. Color: Theory and Application (2) F, S Hoff**

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 Faculty**

Planning the total life space environment. Shelter and interior concepts from a nontechnical basis. (Lecture-discussion 3 hours.)

**242. Techniques of Applied Art II (3) S Trout**

Prerequisite: Home Economics 141. Advanced concepts and techniques of applied art including media presentation methods, visual communication and three dimensional form. Same course as Industrial Arts 242. (Laboratory 6 hours.)

**Upper Division****340. History of Applied Arts (3) S Faculty**

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.)

**344A-B. Interiors (3,3) F,S Hoff**

Prerequisites: Home Economics 142, 143, 241, 348, 446. Home Economics 446 may be taken concurrently. Design principles as applied to interiors: analysis of materials and elements used in environmental planning. (Lecture 2 hours, laboratory 3 hours.)

**348. Perspective in Architecture and Interiors (2) S Church**

Prerequisite: Industrial Arts 141. Perspective drawing of architectural interiors and exteriors. Includes various perspective approaches: shades, shadows, pen and pencil techniques. Same course as Industrial Arts 348. (Laboratory 4 hours.)

**\*440. Environmental Factors and the Urban Family (3) F Faculty**

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, 344A,B, 353, Art 271, Industrial Arts 442. 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 Faculty**

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.)

**446. Presentation Techniques: Architecture and Interiors (3) F Faculty**

Prerequisite: Industrial Arts 348 or Home Economics 348. Techniques in preparing two and three dimensional architectural and interior renderings and presentations. Same course as Industrial Arts 446. (Laboratory 6 hours.)

**447. Rapid Techniques: Architecture and Interiors Presentations (2) S Faculty**

Prerequisite: Home Economics 446 or Industrial Arts 446 or consent of instructor. Methods of visual communication used in architecture and interior presentation with emphasis on development of professional formats using abstraction, fluidity and rapid techniques. Same course as Industrial Arts 447. (Laboratory 4 hours.)

**Family Finance, Management and Consumer Sciences****Upper Division****321. Home Management (3) F,S Faculty**

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. A functional approach to personal finance including budget systems, consumer credit, insurance, debt collection system, status obligation, accumulating reserves. Applicable for personal and professional use. (Lecture, discussion 3 hours.)

**327. Household Equipment Technology (3) F,S Faculty**

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 Faculty**

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.)

**\*424. Independent Living for the Handicapped and Elderly (3) F,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.)

**425. Personal Financial Planning Analysis (3) S Faculty**

Prerequisite: Home Economics 321 or 323 or consent of instructor. Analysis and protection of personal and family resources; planning and forecasting goals; development of financial strategies utilizing insurance, investments, tax management, pensions, wills and trusts. (Lecture 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) S 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, Kim**

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,S Kim**

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 107 or 207 or 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,S Kim**

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. 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,S 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 Faculty**

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,S Kim**

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. Cost Control in Food Service Operations (3) S Faculty**

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. (Lecture 3 hours.)

**\*436. Advanced Nutrition (3) F,S Jacob**

Prerequisites: Home Economics 331, Chemistry 448, 449 (may be taken concurrently). Metabolism of protein, fats, carbohydrates, minerals and vitamins; interrelationships of nutrients; procedures for determining nutritional requirements of individuals. (Lecture 3 hours.)

**\*436L. Laboratory in Advanced Nutrition (1) F,S Rodriguez**

Prerequisite: Home Economics 436 (may be taken concurrently). Designed to provide training in the basic techniques of assessing nutritional status. Includes procedures for instructing patients and methods of collecting and interpreting dietary, anthropometric, clinical and biochemical data. (Laboratory 3 hours.)

**\*437. Cultural Aspects of Food and Nutrition (3) S 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 Faculty**

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 Faculty**

Prerequisites: Upper division standing, Home Economics 232 or 331 or consent of instructor. Analysis of recent developments and current research in nutrition. Not open to students who have had a nutrition course within the past five years. (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 the interrelationship of garment design and clothing construction. (Lecture 2 hours.)

**254L. Laboratory in Clothing Design (1) F,S Kefgen, Lare**

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. Apparel Design: Flat Pattern (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 Industry (3) F Kefgen**

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. Apparel Design: Draping (3) S Lare**

Prerequisite: Home Economics 357 or consent of instructor. 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) F,S 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) F,S Hamilton**

Prerequisites: Graduate standing and consent of instructor. Field experience in which student assumes a self-directed, responsible role in an agency, business or other community setting. May be repeated to a maximum of six units.

**511. Family Development (3) S Dempster-McClain**

Prerequisite: Home Economics 412 or 413 or consent of instructor. Theoretical approaches to the study of the family; analysis of the process of interaction between the individual, the family and society with emphasis on current issues.

**515. Perspectives in Human Development (3) F Dempster-McClain**

Prerequisite: Home Economics 411 or consent of instructor. Theory, trends and research toward maximum development of human potential as it applies to children in the family and community.

**521. Decision Making In Home Management (3) F or S 1981-82 Faculty**

Prerequisites: 400-level course in home management or family finance, Psychology 351 or Sociology 335. Depth course in the science of decision making as it can be applied to management in the home and in home economics.

**523. Consumer Protection (3) F Buckner**

Prerequisite: 400-level course in home management or family finance or consent of instructor. Concepts of consumer protection with analysis of myriad resources available for individuals and families with financial problems.

**530A-B. Special Topics in Nutrition (3,3) F,S Jacob, Rodriguez**

Prerequisites: Home Economics 436, approved course in statistics (may be taken concurrently). Study of selected topics in nutrition, including metabolism of (a) carbohydrates, lipids and proteins and (b) minerals, and vitamins. Area of study will be announced in the *Schedule of Classes*.

**531. Nutrition Programs for School and Community (3) F Rodriguez**

Prerequisite: Home Economics 436 or 462; 486 or EDSS 450H. Program development, resources and evaluation with emphasis on interdisciplinary involvement and techniques for motivation and communication in the field of nutrition.

**532. Advanced Experimental Foods (3) S Kim**

Prerequisites: Home Economics 432; approved course in statistics. Application of the scientific method in the study and design of experimental food problems. Research work on individual basis. (Lecture 2 hours, laboratory 3 hours.)

**541. Housing and Human Settlements (3) F Faculty**

Prerequisite: Home Economics 440 or 441 or consent of instructor. Considerations of shelter concepts, environmental factors, urban developments and contemporary proposals.

**552. Garment Design (3) F Lare**

Prerequisite: Home Economics 452 or consent of instructor. Integration of problems encountered in garment design, fabric manipulation and clothing construction. The technical application of engineering principles involving pattern, fabric and the human form. Student research in design such as clothing for the handicapped, aged and those on limited budgets. (Lecture 2 hours, laboratory 3 hours.)

**559. Apparel Behavior (3) F Lare**

Prerequisites: Home Economics 451, Economics 300. Psychological, sociological and economic influences on the selection of individual and family clothing.

**561. Curriculum Development in Home Economics (3) F Rader**

Prerequisite: Field experience in home economics or a related area. Current philosophies and principles basic in the analysis and organization of curricular programs and materials.

**563. Evaluation in Home Economics (3) F,S Faculty**

Prerequisite: Home Economics 696 or Educational Psychology 302 or 305 or consent of instructor. Principles, design and methods of evaluation for use by professional home economists. Selection and development of instrumentation for data collection and interpretation. Methods of reporting for purposes of accountability.

**590. Independent Study (1-3) F,S Faculty**

Prerequisite: Home Economics 400-level course in area of study. Varied learning activities utilized to achieve competency related to Home Economics not offered in regular courses. Written report required.

**605. Seminar in Administration of Home Economics Programs (3) F Faculty**

Prerequisite: Home Economics 696 or consent of instructor.

**615. Seminar in Child and Family Development (3) S Dempster-McClain**

Prerequisites: Home Economics 511 or 515, 696 or consent of instructor.

**625A-B. Seminar in Family Finance and Home Management (3,3) S  
Buckner, Hamilton**

Prerequisites: A: Family Finance: Home Economics 523, 696. B: Home Management: Home Economics 521, 696. Area of study will be announced in *Schedule of Classes*.

**635A-B. Seminar in Food and Nutrition (3,3) S Jacob, Kim, Rodriguez**

Prerequisites: A: Food: Home Economics 532, 696. B: Nutrition: Home Economics 530, 696. Area of study will be announced in *Schedule of Classes*.

**655A-B. Seminar in Clothing and Textiles (3,3) F Kefgen, Lare**

A: Clothing. Prerequisites: Home Economics 450, 559, 696. B: Textiles. Prerequisites: Home Economics 450, 453, 696. Area of study will be announced in the *Schedule of Classes*.

**665. Seminar in Home Economics (3) F,S Faculty**

Prerequisites: Home Economics 696, consent of instructor.

**696. Research Methods (3) F,S Dempster-McClain**

Prerequisite: Advanced Writing Test. Problems in home economics with emphasis on the methods of research and use of the library. Required of all master's degree candidates in home economics.

**697. Directed Research (1-3) F,S Faculty**

Prerequisites: Advancement to candidacy, Home Economics 500 level course in area of study and 696. Independent study under the guidance of a faculty member.

**698. Thesis (1-4) F,S Faculty**

Prerequisites: Advancement to candidacy, approval of department graduate committee. Planning, preparation and completion of a thesis related to the home economics field.

# Honors Program

Students 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 program provides academically-qualified students with a comprehensive, in-depth approach to inquiry in the many fields of human knowledge. The program makes a systematic attack on methods of inquiry, on whetting the skills of articulating and communicating findings, and on developing the faculty of criticism. The Honors curriculum is carefully devised to shed light on the unity as well as the diversity of knowledge. Toward this end, the courses are closely interrelated with one another. The sequence of courses is cumulative, with each successive course building on its predecessors. A chief aim is the conceptual mastery of the methods and ends of inquiry rather than the more or less random accumulation of information.

The General Honors Program is based upon the belief that the crucial ingredients of knowledge are understandings and skills of judgement obtainable only through sustained, active involvement in the traditional fields of inquiry. In the light of this background and using these skills, one can perceive and define significant new problems arising in new situations, in terms that make possible a fruitful attack on them. One can assess new information, evaluate it in the context of what is already known and thus make it useful. Indeed, a hallmark of the educated person is his or her ability to perceive and tackle a significant problem in a totally unfamiliar area, with a minimum of detailed guidance.

In summary, the General Honors Program is devoted to the pursuit of this *dynamic system* of knowledge. This pursuit is carried on in a community of scholars, faculty and students devoted to the continual reforging of the heritage of the past in terms appropriate to the present and the future.

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; however, 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 basic program consists of 14 courses (totalling 40 units) which satisfy the General Education requirement, followed by the opportunity to undertake independent study toward the Thesis under tutorial supervision (Honors 496 and



498). The courses must be taken in the order indicated. Exceptions to this rule are as follows: 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.

The program offers other courses (Honors 290, 490, and 499) enabling students to extend their Honors experience. However, such courses are elective and may not be regularly available.

The freshman, sophomore, and junior level courses, taken together with the intensive insight gained by the student in pursuit of his or her major, prepare the candidate for the Honors Certificate to undertake the Tutorial and the thesis. The subject of the thesis is often chosen within, or is related to, the student's major. The Thesis is intended to be a modest but genuine contribution to human knowledge. It 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.

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 both to read and to write extensively, and a strong intellectual motivation. The most important requirement in qualifying for this opportunity is an ardent desire to do so.

Students are free to withdraw from the program at any time, without loss of General Education credits they have already earned in its classes. The need of enrollees to commit themselves 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.

#### 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. It 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) F, S

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.

##### 490. Special Topics (1-3) F, S Faculty

Topics of current interest in multi-disciplinary studies selected for intensive development. May be repeated with different topics to a maximum of six units with consent of director. Topics to be announced in the *Schedule of Classes*.

##### 490L. Special Topics Laboratory (1-2) F, S Faculty

Laboratory in topics of current interest in multi-disciplinary studies selected for intensive development. May be repeated with different topics to a maximum of four units with consent of director. Topics to be announced in the *Schedule of Classes*.

##### 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) F,S**

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.

# Human Development

## School of Social and Behavioral Sciences

**Director:** Dr. Norma Bernstein Tarrow.

**Professors:** Tarrow (Teacher Education), Cash (Educational Psychology), Forna (Physical Education), Kluss (Biology), Orpet (Educational Psychology), P. Peterson (Psychology).

**Associate Professors:** Bates (Anthropology), Dempster (Home Economics), Gibbs (Educational Psychology), Nummedal (Psychology).

**Assistant Professors:** Hunt (Home Economics), Maslow (Educational Psychology).

The human development major is designed to provide students with a fundamental interdisciplinary understanding of human growth and development throughout the life cycle. The program of study concentrates on the psychological, sociocultural and biological dimensions of human development and on the underlying processes and structures which support that development. A variety of experiences in community agencies and/or educational settings enables students to integrate knowledge with career goals.

The curriculum is flexible and designed to help students meet a variety of educational needs. A large selection of courses enables students to choose a program of study appropriate to particular interests and goals. Courses will be selected in consultation with the program adviser, a formal program filed and modifications permitted only upon approval of the adviser.

**Major in Human Development for the Bachelor of Arts Degree (code 2-8014)**

**Lower Division:** Psychology 100, Anthropology 120 or Sociology 100, Biology 107 or 207.

**Upper Division:** A minimum of 36 units including (a) a 15-unit required core: Human Development 307, 357, 401, 420 and 470; and (b) 21 units with a minimum of three units selected from clusters 1, 2, 4 and 5, and three units from each of two areas (six units total) in cluster 3. Clusters are the following: (1) Biological Foundations, (2) Age Specific Areas, (3) Topical Areas, (4) Family and Community, (5) Human Development and Cultural Variations.

A curriculum brochure listing specific courses within each cluster may be obtained from the Human Development office.

Students may pursue a concentration in human development within the Liberal Studies degree program.

**307. Prenatal Development through Early Adolescence (3) F Tarrow**

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. 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 Kershaw**

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.)

**420. Tests, Measurements and Evaluations (3) F,S Maslow**

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. Same course as Ed. Psych. 420.

**470. Seminar/Practicum (3) S Faculty**

Prerequisites: Human Development 307, 357, 401; prerequisite or corequisite: Human Development/Educational Psychology 420, and consent of instructor. Advanced consideration of selected topics in human development. Supervised participation with individuals in community agencies and/or educational settings. Practicum arranged according to individual experience and career goals; supplemented by seminar discussion and readings. May be repeated for a maximum of six units. (Seminar 1 hour, practicum 6 hours.)

**490. Special Topics in Human Development (3) F,S Faculty**

Prerequisites: Human Development 307, consent of instructor. Topics of current interest in human development selected for intensive study. May be repeated with different topics for a maximum of six units. Topics for a given semester will be announced in the *Schedule of Classes*.

**499. Independent Study (1-3) F,S Faculty**

Prerequisite: Consent of Program Director. Student will conduct independent laboratory, field or library research and write a report of the research. May be repeated for a maximum of six units.

# Humanities

## School of Humanities

**Dean:** Dr. Ronald L. Applbaum

**Associate Dean, Educational Policy:** Dr. Mary Purcell

**Associate Dean, Instructional Support:** Dr. Karl W.W. Anatol

**Assistant to the Dean:** Mr. Frank L. Costa

The School of Humanities, with its concern for human values, is committed to the discovery, evaluation, and transmission of fundamental knowledge. The School offers a variety of programs in the basic disciplines of language, literature, mathematics, and philosophy as well as in the professional fields of communication, journalism, and radio-television, all which equip students with the ability to think clearly, critically, and analytically. Humanities courses, taken by both majors and non-majors, are designed to develop the essential skills of educated people to adapt to a rapidly changing world with its ever-changing occupational demands. These important skills include the abilities to effectively think, read, write, speak, listen, and solve problems.

Graduates in the Humanities often continue their education in graduate or professional schools. Others use their major as preparation for careers in law, teaching, business, industry, journalism, administration, communications, or government service.

Degree programs offered by the School are:

Communicative Disorders . . . . .	B.A., M.A.	Linguistics . . . . .	M.A.
Comparative Literature . . . . .	B.A., M.A.	Mathematics . . . . .	B.A., M.A.
English . . . . .	B.A., M.A.	Philosophy . . . . .	B.A., M.A.
French . . . . .	B.A., M.A.	Radio/Television . . . . .	B.A.
German . . . . .	B.A., M.A.	Religious Studies . . . . .	B.A.
Journalism . . . . .	B.A.	Spanish . . . . .	B.A., M.A.
Liberal Studies . . . . .	B.A.	Speech Communication . . . . .	B.A., M.A.

Students declaring Liberal Studies as their major will need to complete the Liberal Studies core courses and one approved concentration. Approved concentrations in the School of Humanities include: American Studies, Comparative Literature, English, French, German, Mathematics, Philosophy, Religious Studies, Spanish, and Speech Communication.

### Humanities Minors and Certificate Programs

Students are encouraged to combine a minor and/or certificate program along with their chosen major. 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 it may be interdisciplinary. However, 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.

The School of Humanities offers minors in the following disciplines: American Studies, English (Literature, Language and Composition, Creative Writing, Teaching, or Special Option), French, German, Greek, Italian, Latin, Journalism, Mathematics, Philosophy, Religious Studies, Spanish, and Speech Communication.



Students may also elect to complete a certificate. Undergraduate certificates will be awarded only concurrently with, or subsequent to, the awarding of the bachelor's degree.

#### **Degree Requirements**

Specific degree requirements are described in the appropriate sections of this *Bulletin*.

#### **Double Major**

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

#### **Advisement**

Departments in the School of Humanities maintain academic advisers. Students are encouraged to contact the department of their major well in advance of registration day for advice on degree requirements or on other matters regarding their academic programs. Students may also contact the University Academic Advising Center especially if they are Liberal Studies or Special Majors.

#### **Internships**

The Departments of Communicative Disorders, Journalism and Radio-Television offer internships with on and off campus cooperating organizations designed to provide students with practice in the field under supervision.

#### **Student Activities**

Most of the departments in the School of Humanities have either a student association or honor organization which provide students with a program of activities. Students should contact the department of their major to inquire about the kinds of organizations available to them.

The School and Associated Students promotes the Humanities Student Council with its representation from each department acting as liaison between the School administration, faculty, and members of the School's student body. The Student Council also provides a forum for the discussion and resolution of common student concerns.

Some of the activities of the Humanities Student Council and its member department student associations include: cultural activities, speakers, films, pot luck dinners, career programs, conferences, publications, social and sporting events, and faculty-student programs.

# Industrial Education

## School of Applied Arts and Sciences

**Department Chair:** Dr. Leonard Torres.

**Emeritus:** Ernest J. Rawson.

**Professors:** Genevro, Heineman, Kunst, Lathrop, Nicholson, Patcha, Powell, Randall, Ryan, D. Smith, E. Smith, Torres, Trout, Webster, Wittich.

**Associate Professors:** Brandstatt, Church, Macon, Martin, Quinones, Routh.

**Assistant Professor:** Hironaka.

**Credential Adviser:** Dr. James Ryan.

**Undergraduate Advisers:** Dr. Leonard Torres, Dr. James E. Ryan.

**Graduate Adviser:** Dr. Paul E. Powell.

**Graduate Committee:** Kunst, Powell, Ryan, Torres, Webster.

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.

Graduate work in industrial education provides the opportunity for men and women to: (1) expand and increase competencies in one or more areas of specialization; (2) develop maturity of thought and attitude toward their profession;

(3) gain insights into problems of professional leadership and knowledge to assume positions of leadership; (4) obtain the necessary understandings to be able to engage in research resulting in contributions of knowledge in an atmosphere of freedom of inquiry; and (5) engage in an interchange of ideas between faculty and qualified students in a spirit of research and scholarship to enhance one's personal and professional competencies.

The master of arts degree in industrial arts is provided for: (1) those who are teaching and who want to complete the requirements for a master's degree to become better teachers, (2) those who participate in industrial training programs, and (3) those who wish to pursue work toward the doctorate degree.

**Each graduate applicant should request a copy of the official transcript of all college course work be sent to the graduate adviser in the Industrial Education Department in addition to the copies required by the Office of Admissions and Records.**

#### 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, 484 and EDSE 300. Education Single Subject 450I is not a requirement for the baccalaureate degree but must be taken the semester before student teaching.

#### 414 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 eight areas available in 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 a program adviser. Interested students should contact Dr. Robert Kunst or Mr. Ross Martin.

#### Certificate in Industrial Plastics Processing and Design

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 polymeric industry and degradation of polymeric. 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 with a Major in Industrial Arts (code 5-1025)

##### Prerequisites

1. A bachelor's degree with a major in industrial arts, or:
2. A bachelor's degree in industrial education with course work judged by the Industrial Education Department to be the equivalent of that required at this University, or:

3. A bachelor's degree with 24 units of approved upper division industrial arts. (Students deficient in undergraduate preparation must take courses to remove these deficiencies at the discretion of the Department Graduate Study Committee.)

#### Advancement to Candidacy

1. Satisfy the general University requirements for advancement to candidacy.
2. Approval of the department graduate adviser and Director of Graduate Studies and Research, School of Applied Arts and Sciences.

#### Requirements for the Degree

1. Completion of a minimum of 30 units of approved upper division and graduate courses.
2. Completion of a minimum of 20 units of industrial arts courses of which 15 units must be in the 500 and/or 600 series at this University.
3. Completion of Industrial Arts 696 and 697.
4. Thesis approved by the Department Graduate Study Committee.

#### Lower Division

##### 281. Exploratory Woodwork (2) F,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 Faculty

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 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 Faculty

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.

##### 392. Metric Metrology (2) S Randall

Study of the International Metric System, its base and derived units, style guide and prefix system. Metrication of technical and manufacturing operations and related ISO (ANSI) standards.

##### 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) F, S Faculty

Prerequisite: Basic Woodworking or equivalent. 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, Ryan

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 Torres

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) F,S 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 Hironaka**

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 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 Randall**

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.)

**242. Techniques of Applied Art II (3) S Trout**

Prerequisite: Home Economics 141. Advanced concepts and techniques of applied art including media presentation methods, visual communication and three dimensional form. Same course as Home Economics 242. (Laboratory included.)

**Upper Division**

**\*341. Industrial Graphics (3) F,S Randall**

Prerequisite: Industrial Arts 141 or equivalent. Use of graphic techniques as a means of presenting data and the solution of arithmetical problems. The course encompasses the application of automated computer graphics, geometrical dimensioning and tolerancing and SI metric standards and techniques. (Laboratory included.)

**\*342. Technical Sketching (2) F,S Randall**

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) F,S Heineman**

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) F,S Randall**

Prerequisite: Industrial Arts 141. Development of preliminary drawings for a sailing or planing vessel. The set of drawings includes the lines drawing, arrangement and profile plans, sail plan, table of offsets, transom expansion and deck beam development. The design will be analyzed using graphic methods and static calculations using a computer. (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.)

**348. Perspective in Architecture and Interiors (2) S Church**

Prerequisite: Industrial Arts 141. Perspective drawing of architectural interiors and exteriors. Includes various perspective approaches; shades, shadows, pen and pencil techniques. Same course as Home Economics 348. (Laboratory included.)

**\*441. Machine Drawing (2) F,S Heineman**

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) F, S Randall**

Prerequisites: Industrial Arts 131, 141. Development of drafting techniques applicable to electronic drafting standards, terminology and schematic, wiring and interconnection diagrams. It also includes standards and techniques for pipe drawing and study of electro-mechanical packages. (Laboratory included.)

**446. Presentation Techniques: Architecture and Interiors (3) F Faculty**

Prerequisite: Industrial Arts 348 or Home Economics 348. Techniques in preparing two and three dimensional architectural and interior renderings and presentations. Same course as Home Economics 446. (Laboratory included.)

**447. Rapid Techniques: Architecture and Interiors Presentations (2) S Faculty**

Prerequisite: Industrial Arts 446 or Home Economics 446 or consent of instructor. Methods of visual communication used in architecture and interior presentation with emphasis on development of professional formats using abstraction, fluidity and rapid techniques. Same course as Home Economics 447. (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 Devices I (3) F, S Brandstatt, D. Smith**

Prerequisite: Industrial Arts 331 or equivalent. Theory and operation of semiconductor discrete devices 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. Semiconductor Devices II (3) F, S Brandstatt**

Prerequisite: Industrial Arts 331 or equivalent. Theory and operation of semiconductor digital and linear integrated circuit devices. Applications, measurement and test equipment usage will be emphasized.

**\*387. Citizen Band Radio (2) F D. Smith**

Principles of Citizen Band Radio for general and consumer education that includes transceivers, antennas, Federal Communication Commission laws and radio theory.

**\*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 presswork. 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 (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 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, S Nicholson**

Materials of industry through creative experiences in the crafts media. Historical and industrial related information is included. (Laboratory included.)

**\*372. Introduction to Gem Faceting and Gemology (3) F Fradkin**

Theory and practice of gemology and gemstone faceting. Covers basic physical, optical and crystallographical properties, faceting machine design and operation and basic gem cutting skills. (Laboratory included.)

**\*471. Industrial Crafts II (3) F, S Nicholson**

Prerequisite: Industrial Arts 371. Advanced studies of industrial crafts media. Emphasis on ceramics and lapidary. (Laboratory included.)

**\*472. Advanced Gem Faceting and Gemology (3) S Fradkin**

Advanced studies in gemology and gemstone faceting. Emphasis on the use of faceting diagrams, complex cutting and polishing and the cutting of rare materials. (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, 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, Wittich**

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.



**\*401. Photo Marketing/Portfolio (2) S Wittich**

Prerequisites: Industrial Arts 304, a minimum of four additional upper division units in photography. The art and craft of preparing a professional photographer's portfolio and the necessary techniques to display photographic skills, utilizing the portfolio as the chief marketing tool.

**\*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 Faculty**

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 Routh**

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.)

**\*409. Photo-Graphics (2) S Routh**

Prerequisite: Industrial Arts 101. In-depth study of graphic techniques as applied in photography: high contrast, tone separation, color graphics, line, posterization, tone line, Sabattier effect, etch-bath. (Laboratory included.)

**Plastics****Lower Division****170. Introductory Plastics (2) F,S Faculty**

Materials, processes and applications of industrial plastics and polymers. Basic operation in processing, fabricating and finishing of thermoplastics and thermoset plastics materials. (Laboratory included.)

**Upper Division****\*370. Advanced Plastics Processing (3) F,S Faculty**

Prerequisite: Industrial Arts 170 or consent of instructor. Primary plastics processing techniques; principles. Operation of thermoforming, rotational molding, injection molding, compression molding, extrusion and blowmolding equipment. Product and process evaluation. (Laboratory included.)

**\*373. Plastics Application to Design (3) F Faculty**

Prerequisite: Industrial Arts 170 or consent of instructor. Interpretation of plastic design data in their capabilities and limitations as a class of materials. Provide an understanding of the principles underlying the properties of plastics and design problems associated with plastics through the laboratory application of plastic processes and their effects on design. (Laboratory included.)

**\*470. Reinforced Plastics and Composites (3) F,S Faculty**

Prerequisite: Industrial Arts 170 or consent of instructor. Mold preparation and production of reinforced plastics products. Standard specifications for reinforced materials and composite materials. (Laboratory included.)

**\*474. Plastics Mold Construction (3) F,S Faculty**

Prerequisite: Industrial Arts 170 or consent of instructor. Properties and characteristics of thermo-setting and thermoplastics materials. Analysis and construction of molds and dyes for use with reinforced plastics, injection molding, thermoforming processes, extrusion and compression and transfer molding. (Laboratory included.)

**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 coatings, 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**

Prerequisite: Industrial Arts 111. 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) F Faculty**

The study of management and supervisory methods, systems and theories as applied to industry and to industrial education programs.

**591. Industrial Program Development (3) F Powell**

The selection and organization of industrial training curricula and development of courses of study to be used in public and private industrial education programs.

**592. Evaluation in Industrial Education (3) S Kunst, Powell**

Development of methods, techniques and devices for evaluating people, programs and other aspects in industry and in industrial education. Evaluation of students, employees, facilities, safety and other areas of interest with emphasis on development of evaluation devices.

**593. Teaching Industrial Subjects (3) S Ryan**

Teaching techniques, philosophy, organization and planning in industrial training programs, public and private education.

**594. Modern Concepts in Industrial Education (3) F 1981 Powell, Ryan**

Concepts and objectives of industrial education; relationship of industrial education to general education; state and federal legislation affecting industrial education; types of modern industrial schools and their relationship to industry; cooperative and apprenticeship training programs.

**650. Seminar in Industrial Practices and Education (3) F,S Kunst, Ryan**

Prerequisite: Consent of instructor. Study of selected topics in industrial education, including important legislation, industrial innovations, technical change and contemporary problems. Topics will be announced in *Schedule of Classes*. May be repeated for a maximum of six units.

**696. Research Methods (3) F,S Kunst, Torres**

Selecting, defining and presenting methods applicable to the solution of problems in industrial education with emphasis on experimental, descriptive, technical projects and library techniques. Required of all master's degree candidates in industrial arts.

**697. Directed Research (2) F,S Kunst, Torres, Webster**

Prerequisites: Industrial Arts 696, advancement to candidacy. The definition, presentation and discussion of selected problems in industrial education.

**698. Thesis (1-4) F,S Kunst, Powell, Torres, Webster**

Prerequisite: Advancement to candidacy. Planning, preparation and completion of a thesis related to this field. Limited to classified graduate students who have completed or are completing Industrial Arts 697.

# Industrial Technology

School of Applied Arts and Sciences

**Department Chair:** Mr. Henry Krauser.

**Emeriti:** Robert C. Brice, Paul Kleintjes, H. Burgess Robinson, James L. Young.

**Professors:** Grossman, Hayes.

**Associate Professors:** Johnson, Krauser.

**Assistant Professor:** Jarasunas.

**Undergraduate Advising Coordinators:**

Construction Option: Dr. Arthur W. Grossman.

Electronics Option: Dr. Charles Johnson.

Manufacturing Option: Dr. Emanuel Jarasunas.

Quality Assurance Option: Dr. Glenn E. Hayes.

The program in industrial technology is designed for the student who demonstrates the aptitude and promise for high level technical work with related administrative and management responsibility.

Leadership awareness and ability are accomplished through a combination of lectures, seminars, discussions and workshops which expose the student to the real world of industry and the leadership challenges that it offers. Emphasis is placed on the technological as well as the sociological and managerial aspects of modern industry.

This curriculum has been designed to accommodate students who may wish to enter the University in a four-year program, or who may wish to transfer credits earned at other colleges or approved technical or military service schools. It is recommended that prospective students, prior to submitting an application for admission, be advised by a member of the industrial technology faculty to discuss departmental requirements and the admission requirements of the University.

There are four options in industrial technology.

**Construction Technology.** Prepares graduates for responsible positions in project management, contracting, estimating, costs and scheduling, inspection, proposals and specification writing, and facilities planning and development in the construction industry.

**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 and facilities management. Students desiring to pursue these fields should contact an adviser in the department for further information.

#### Industrial Technology Facilities

The multimillion dollar building for industrial technology is designed with laboratories and modern equipment for instruction in foundry and patternmaking, 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	Bechtel Corporation
Dept. of Defense	Rockwell International
McDonnell Douglas Corp.	Ford Aeronautics Corp.
Fluor Corporation	Hughes Aircraft, Aerospace Group
Northrop Nortronics	Long Beach Naval Shipyard
Smith Tool Corp.	Magnavox Development Laboratories
Norris Industries, Inc.	THUMS, Long Beach
Certified Alloy Products, Inc.	General Motors Corp.
Biddle Development, Inc.	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 lower division general education and core courses for all options are listed as follows: Chemistry 100, Physics 100A and B, Economics 200, Psychology 100, Philosophy 160 or 170, Art/Music/Theatre Arts (any three-unit course satisfying the general education requirement), Mathematics 102, 120; History 172, Political Science 100, English 100, Accounting 202 and Finance 222. Additionally, up to 24 approved technical credits, of grade C or better, may be applied toward the lower division requirements of the degree.

The upper division core courses for all options are listed as follows: Industrial Technology 300, 309, 311 and 315. The following additional core courses are required for all options except construction technology: Industrial Technology 301, 307, 312 and 406. Additional core courses pertaining to the construction option only are as follows: Industrial Technology 317, 323, 414 and English 317. The specific requirements for each option are indicated below:

#### Construction Technology Option (code 3-1080)

All general education, lower and upper division core courses and the following upper division option requirements: Industrial Technology 302, 304, 321, 322, 417, 422, 423, 424, 425, 427 and 435. Field work requirements and electives, selected in consultation with adviser, to total 128 units.

#### Electronics Technology Option (code 3-1081)

All general education, lower and upper division core courses and the following upper division option requirements: Industrial Technology 306, 340, 375, 402, 408, 442, 443 and 445. Field work requirements and electives, selected in consultation with adviser, to total 128 units.

#### Manufacturing Technology Option (code 3-1082)

All general education, lower and upper division core courses and the following upper division core courses and the following upper division option requirements: Industrial Technology 302, 304, 305, 306, 361, 369, 402, 406, 408 and 470. Field work requirements and electives, selected in consultation with adviser, to total 128 units.

#### Quality Assurance Option (code 3-1083)

All general education, lower and upper division core courses and the following upper division option requirements: Industrial Technology 306, 313, 361, 369, 402, 408, 469, 470, Management 406 and Mechanical Engineering 390. Field work 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.

#### Certificate in Facilities Operations

The Certificate Program in Facilities Operations is designed to qualify the graduate to serve in plant engineering, industrial construction coordination, facilities development and design, plant layout, and facilities project management. Examples of the myriad positions available to the graduate of this program are facilities planner, construction supervisor, facilities or plant supervisor, facilities project engineer and facilities design engineer.

This program provides the Industrial Technology graduate with a depth of technical knowledge in facilities-operations-oriented technical courses, as well as the knowledge of behavioral sciences essential for managing technical functions.

#### Requirements for the Certificate in Facilities Operations:

1. The Certificate in Facilities Operations may be earned concurrently with or subsequent to the baccalaureate degree.
2. This program is open to all majors who have fulfilled the required prerequisites as stated in item 3a.
3. The program requires a total of 24 units as specified in items 3b and 3c.
  - (a) The completion of supporting technical courses chosen in consultation with an adviser: I.T. 323, Physics, Chemistry, Algebra and Trigonometry, Accounting, Construction Drafting, and lower division construction requirements.
  - (b) The following 21 units of facilities-operations-oriented courses are required: I.T. 306, 307, 321, 322, 402, 407, 408 and 422.
  - (c) Completion of three units of either Criminal Justice 431, I.T. 405, 403 or 306.
4. Any deviation from this program requires the written permission of the program adviser.

#### Certificate in Safety Operations

The Certificate Program in Safety Operations is designed to prepare students for safety positions that require a strong background in the technology of safe industrial environments. Examples of this kind of position are manufacturer's safety representative, manufacturing facilities safety analyst, traffic safety analyst, and



representative of California and Federal agencies involving public safety (e.g. OSHA).

This interdisciplinary program provides a student with a depth of technical training in safety, related technical courses, and also provides the student with experiences in human resources management necessary to effectively supervise safety programs.

*Requirements for the Certificate in Safety Operations:*

1. The Certificate in Safety Operations may be earned concurrently with or subsequent to the baccalaureate degree.
2. This program is open to all majors who have fulfilled the required prerequisites as stated in item 3a.
3. The program requires a total of 24 units as specified in items 3b and 3c.
  - (a) The completion of supporting technical courses chosen in consultation with an adviser: Industrial Technology 301, Physics 100A-B or equivalent, Chemistry 100 or equivalent, Accounting 202 or equivalent, and Mathematics 102 or equivalent.
  - (b) The following 21 units of safety-operations-oriented courses are required: Industrial Technology 301, 307, 308, 309, 310, 369, and 402.
  - (c) Completion of three units of either Consumer Health, Finance 222, or Human Resources Management 360.
4. Any deviation from this program requires the written permission of the program adviser.

**Lower Division**

**230. Fundamentals of Inspection (3) S Brice, Hayes**

Theory and application of inspection procedures, variables and attribute inspection, laboratory inspection exercises. (Lecture 2 hours, activity 2 hours.)

**240. Construction Practices (3) F,S Faculty**

Principles and practices as applied in contemporary residential and light commercial construction. (Lecture 2 hours, activity 2 hours.)

**245. Concrete Construction (3) F,S Faculty**

Introductory course in concrete terminology, tools, practices and building codes. Includes concrete form construction, erection and stripping; mixing, placing, finishing and curing. Field trips. (Lecture 2 hours, activity 2 hours.)

**Upper Division**

**300. Industrial Communications (3) F,S Faculty**

Prerequisites: English composition and industrial drawing. Accurate, economical, rapid transmission and interpretation of information.

**301. Materials of Industry (3) F,S Faculty**

Prerequisites: Physics 100A,B, Chemistry 100. Properties and applications of industrial materials. (Lecture 2 hours, activity 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 (1) F Brice**

Prerequisite: Industrial Technology 306. Foundry practices and casting techniques used in industry. (Lecture-discussion 1 hour.)

**303L. Foundry Technology Laboratory (1) F Brice**

Prerequisite or corequisite: Industrial Technology 303. Foundry practices and casting techniques used in the industry. (Laboratory 3 hours.)

**304. Mechanics of Materials (3) F,S Krauser**

Prerequisites: Mathematics 120, 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; fundamentals of hydraulics, pneumatics and power train. (Lecture 2 hours.)

**305L. Kinematics and Machine Design (1) F,S Jarasunas**

Prerequisite or corequisite: Industrial Technology 305. Laboratory course applying graphical analysis to design of mechanical systems. (Activity 2 hours.)

**306. Processes of Industry (3) F,S Brice**

Prerequisite: Industrial Technology 301. Methods used in industrial manufacturing and fabrication.

**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) F 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) S 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 Krauser**

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. Statistical Quality Control (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 (1) F Faculty**

Prerequisite: Industrial Technology 306. Instrument calibration, standards and precision measurement for quality assurance and reliability. (Lecture-discussion 1 hour.)

**313L. Metrology Laboratory (1) F Faculty**

Prerequisite or corequisite: Industrial Technology 313. Instrument calibration, standards and precision measurement for quality assurance and reliability. (Laboratory 3 hours.)

**315. Computer Applications (2) 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.)

**315L. Computer Applications Laboratory (1) F, S Krauser**

Prerequisite or corequisite: Industrial Technology 315. Applications of computers to solution of problems in business, manufacturing, research and simulation. (Laboratory 3 hours.)

**317. Construction Safety (2) F, S Faculty**

Prerequisites: Lower division construction classes. Terminology, safety functions, accident costs, workman's compensation and liability laws, O.S.H.A., and many other governmental and nongovernmental codes, regulations and field safety methods pertinent to the construction industry. Field trips. (Lecture-discussion 2 hours.)

**320. Materials Handling (3) S Hayes**

Prerequisite: Industrial Technology 306. Work simplification in movement of materials in production.

**321. Construction Cost Estimating (3) F, S Grossman, Faculty**

Prerequisites: Lower division construction requirements met or in progress. Estimates used by building and specialty contractors. Preparation of cost estimates through evaluation of labor, material, equipment and indirect costs. (Lecture 2 hours, activity 2 hours.)

**322. Mechanical Equipment for Buildings (3) F, S Kleintjes**

Prerequisites: Lower division construction requirements met or in progress. Principles and current practices in water supply, waste disposal, heating, ventilating, air conditioning and fire protection. (Lecture 3 hours.)

**323. Materials for Construction (2) F, S Kleintjes**

Prerequisites: Physics 100A-B, Chemistry 100. Properties, applications and economics of materials of specific interest to the construction industry. (Lecture 1 hour, laboratory 3 hours.)

**324. Industrial Electro-Chemical Processing (2) F, S Faculty**

Prerequisites: Industrial Technology 301, 306. Theory and practice in electrochemical processes to include chem-milling, electro-forming, electro-plating and metal coloring. (Lecture 1 hour, activity 2 hours.)

**340. Solid-State Electronics (3) F, S Johnson**

Prerequisites: Mathematics 116 or equivalent, Industrial Arts 332 or 16 units of electronics. Analysis and design of solid-state electronic circuits utilizing bipolar, unijunction, field-effect and 4-layer control devices and introduction to operational amplifiers. (Lecture-discussion 2 hours, problem session 2 hours.)

**344. Machine Tools (1) F, S Brice**

Operations and use of the conventional and nonconventional machine tools. Not open to students with previous machine tools credit. (Lecture 1 hour.)

**344L. Machine Tools Laboratory (1) F, S Brice**

Corequisite: Industrial Technology 344. Operations and use of conventional and nonconventional machine tools. Not open to students with previous machine tools experience. (Laboratory 3 hours.)

**361. Industrial Metallurgy (3) F, S Jarasunas**

Prerequisite: Industrial Technology 301; recommended: 369. Current and emergent applications of metallurgy to manufacturing of modern hardware. (Lecture 2 hours, laboratory 3 hours.)

**362. Heat Treating (1) F 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. (Lecture 1 hour.)

**362L. Heat Treating Laboratory (1) F Brice**

Prerequisite: Industrial Technology 362. Metallographic study of heat effects of thermal treatments on metals and mechanical properties of metals. (Laboratory 3 hours.)

**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. Control Instrumentation (3) S Krauser**

Prerequisite: Industrial Technology 340. Techniques in measurement of physical quantities with emphasis on methods and equipment relating to industrial control and processing. (Lecture 2 hours, laboratory 2 hours.)

**380. Graphics Tooling (2) S Faculty**

Prerequisite: Industrial Technology 315. Introduction of interactive computer devices to establish hard copy documents which implement tool design. (Lecture 1 hour, laboratory 3 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 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 425, 315 and logic. Project planning, scheduling and control by critical path method, work breakdown structure, master and control level schedules and milestone charts. Cost optimization through resource allocation. Computer and noncomputer methods presented. (Lecture 2 hours, activity 2 hours.)

**408. System Technology (3) F,S 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 3 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) F Johnson**

Prerequisites: 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.)

**414. Construction Proposals and Specifications (3) F,S Faculty**

Prerequisites: Industrial Technology 300, Finance 222. Principles and methods for developing the technical knowledge to structure a construction proposal. An analysis of letters of transmittal, inquiry and bidding specifications. (Lecture 3 hours.)

**416L. Computer Applications-Advanced Laboratory (1) F Krauser**

Prerequisite: Industrial Technology 315. Analysis of problems in construction, manufacturing, electronics and quality assurance. Individual and group projects. (Laboratory 3 hours.)

**417. Construction Planning and Scheduling (3) F,S Grossman**

Prerequisites: Lower division construction courses, Industrial Technology 315, 321 (may be taken concurrently). Planning, scheduling and control by graphic charts and PERT/CPM networks. Resource allocation and leveling. Manual and computer methods. Field trips. (Lecture 2 hours, activity 2 hours.)

**422. Electrical Equipment for Buildings (3) F,S Kleintjes**

Prerequisite: Lower division construction requirements met or in progress, Industrial Technology 302 (may be taken concurrently). Principles and current practices in the application of electrical equipment and material utilization, sound and signal systems, illumination, vertical transportation and energy management. (Lecture 2 hours, activity 2 hours.)

**423. Site Analysis (3) F,S Grossman, Faculty**

Prerequisites: Lower division requirements, Civil Engineering 225. Detailed analysis and investigation of construction sites. Economics and feasibility of land development. Field trips. (Lecture-discussion 2 hours, activity 2 hours.)

**424. Construction Equipment (3) F,S Faculty**

Prerequisites: Civil Engineering 225, Industrial Technology 417. Characteristics, capabilities, limitations, economics and utilization of general building and heavy construction equipment. (Lecture-discussion 2 hours, activity 2 hours.)

**425. Construction Methods (3) F,S Faculty**

Prerequisites: Industrial Technology 304, 323 (may be taken concurrently). Current practices in structural design, fabrication, and erection; materials, methods and equipment used in industrial, commercial and heavy construction. Field trips. (Lecture 3 hours.)

**427. Construction Law (3) F,S Faculty**

Prerequisites: Industrial Technology 317, senior standing. Contractors license laws; mechanics lien laws; real estate and subdivision law; public works projects bid and bond requirement, OSHA: administration, enabling legislation and penalties; citations and appeals; current litigation and legal trends in affirmative action and minority subcontractor quotas, design professional's liability. (Lecture-discussion 3 hours.)

**435. Construction Project Management (3) F,S Grossman**

Prerequisites: Industrial Technology 321, 417, 427, senior standing. Theory and techniques of managing construction projects and Contractors State License Board requirements for California. (Lecture-discussion 3 hours.)

**442. Computer Circuits (3) F,S Johnson, Krauser**

Prerequisite: Industrial Technology 342. Analog and digital computers, with emphasis on digital systems, number systems and computer logic, control, arithmetic and memory devices. (Laboratory included.)

**443. Microcomputer Systems (3) F,S Johnson**

Prerequisite: Industrial Technology 315. Block diagram approach to electronic systems, including computers, process control and data handling. (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 (2) F Johnson**

Prerequisite: Industrial Technology 342. Design, processing and applications of monolithic and hybrid microcircuits for analog and digital systems. (Lecture 2 hours.)

**445L. Microelectronics Laboratory (1) F,S Johnson**

Prerequisite: Industrial Technology 342; recommended: concurrent enrollment in Industrial Technology 445. Laboratory experience in the processing of thick-film materials, ultrasonic and thermo-compression wire bonding and laser resistive trimming. Practical application and equipment utilization is emphasized. (Laboratory 3 hours.)

**466. Welding Metallurgy (1) S Brice, Faculty**

Prerequisite: Industrial Technology 361. Theory and applications of current and emergent joining processes with consideration of weldability of metals and thermal effects on properties. (Lecture 1 hours.)

**466L. Welding Metallurgy Laboratory (1) S Brice, Faculty**

Prerequisite: Industrial Technology 466. Applications of current and emergent joining processes with considerations of weldability of metals and thermal effects on properties. Welding techniques in selected processes exercised in laboratory. (Laboratory 3 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 (1) S Faculty**

Prerequisite: Industrial Technology 369. Testing of materials, including both destructive and non-destructive procedures. (Lecture 1 hour.)

**470L. Testing of Materials Laboratory (1) S Faculty**

Prerequisite: Industrial Technology 470. Laboratory exercises in the use of test equipment both destructive and non-destructive. (Laboratory 3 hours.)

**490. Electronic Packaging and Design (3) S Faculty**

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.)

**492. Advanced Studies in Technology (3) F 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.

**493. Problems in Production Technology (1-3) F,S Johnson**

Prerequisites: Industrial Technology 402, 406; senior standing, recommended industrial experience. Problems in production technology: current problems in industry will be identified, solutions proposed and evaluated and recommendations developed and presented. (Discussion to be arranged.)

# Instructional Media

## School of Education

**Department Chair:** Dr. Richard J. Johnson.

**Emeriti:** James E. Cockrum, Jay J. Gramlich, F. Alan Timmons.

**Professors:** Brent, Johnson, Vaughan.

**Associate Professors:** McLaughlin, Ward.

**Academic Advising Coordinator:** Dr. Richard J. Johnson.

For degree requirements see **Education**.

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.

Objectives of the program are to (1) provide opportunities for advanced study, experience and research in practical and theoretical aspects of the preparation, selection, circulation and utilization of the major types of instructional media; (2) qualify those students desiring advanced professional preparation for instructional media and communication phases of public school, health, business and industry; (3) prepare students for an advanced degree in which a significant prerequisite for employment is professional competency in instructional communications; (4) provide theory and experience in the organization and administration of learning resource centers and media programs; and (5) provide opportunities for teachers, administrators and training directors to become acquainted with new communicative techniques for effective classroom instruction.

### Instructional Media Advisory Council

The Advisory Council is composed of students and 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.

Nancy Carter, Personnel Development Assistant, General Telephone Co.

Jill Henricks, Director of Instructional Media, Huntington Beach School District

Richard J. Johnson, Chairman, Instructional Media Dept., California State University, Long Beach

Robert C. Johnson, Vice-President, Instructional Media Students' Assn.

Eileen V. Lowe, Treasurer, Instructional Media Students' Assn.

John Nelson, Dean, School of Education, California State University, Long Beach

C.L. Nunnally, Manager, Engineering Training, McDonnell Douglas Aircraft Co.

Aldo S. Romiti, Administrative Assistant, Chief of Staff, Veterans Administration Hospital

Jonda Rourke, Training Coordinator, Buffums' Department Store

Rosemary Taylor, Audio Visual Librarian, Redondo Beach Public Library

Adaline I. Torres, Secretary, Instructional Media Students' Assn.

James Ward, President, Instructional Media Students' Assn.

### 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, 490, 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

## Instructional Media

### Upper Division

#### \*300. Instructional Media (3) F, S Johnson

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. Instructional Design Media Integration (3) F Faculty

Prerequisite: I.M. 300 or consent of instructor. Media integration in unit and course design; applied in the early stages of educational and training program planning.

#### \*410. Preparation of Graphic Media (3) 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, design, paste-up and high contrast photography. (Lecture 2 hours, laboratory 2 hours.)

#### \*411. Self Paced Instructional Design (3) F, S McLaughlin

Prerequisite: I.M. 300 or consent of instructor. Design of self paced formats including mapping, programmed learning and other self paced systems of instruction.

#### \*440. Information Systems (3) S McLaughlin

Introduction to information storage, dissemination, and retrieval of bibliographic and media materials. Includes individual projects on manual, data processing, and computer techniques for database management and interactive utilization. (Lecture 2 hours, laboratory 2 hours.)

#### \*441. Designing Computer Assisted Instruction (3) S McLaughlin

The development of interactive computer learning materials. Includes individual projects using microcomputer or timesharing systems for educational and training applications. (Lecture 2 hours, laboratory 2 hours.)

#### \*490. Special Topics in Instructional Media (1-3) F, S 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*.

#### \*491. Internship (3) F, S Johnson

Prerequisite: Consent of department chair and senior standing. At least 120 hours with cooperation organizations. Work to be directed and evaluated by supervisors of the participating organizations. Three classroom meetings per semester. Assignments will be varied and within the area of instructional communications. Credit/no credit.

#### \*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. May be repeated for credit to a maximum of six units, with no more than three units applicable to credential or major requirement.

### Graduate Division

#### 500. Instructional Systems (3) S Faculty

Prerequisites: IM 300 and 411 (may be taken concurrently) or consent of instructor. Analysis and design of instructional systems related to the conceptual framework of a system.

#### 501. Theoretical Models Applied to Media (3) F Faculty

Prerequisites: Ed. Psych. 305, IM 300. Theoretical models of communication, information, learning and perception applied to the design and utilization of instructional media.

#### 510. Preparation of Photographic Media (2) F Brent

Prerequisite: IM 300 or consent of instructor. Design and production of photographic story board formats, slides and filmstrips. (Lecture 1 hour, laboratory 2 hours.)

#### 511. Preparation of Audio Media (2) F, S Faculty

Prerequisite: IM 300 or consent of instructor. Planning and production of recorded materials on discs and tapes. (Lecture 1 hour, laboratory 2 hours.)

#### 512. Instructional Film Production (3) F, S Faculty

Prerequisite: Consent of instructor. Topical selection, objectives, scripts, filming, editing, and preproduction testing in relation to new concepts of perception and learning. (Lecture 2 hours, laboratory 2 hours.)

**513. Multi-Media Message Design (3) S Johnson**

Prerequisites: IM 300, 410, 510, 511, 512 and consent of instructor. Advanced study and laboratory experiences in designing, producing and presenting educational multi-media messages. (Lecture 2 hours, laboratory 3 hours.)

**520. Administration of Learning Resource Centers (2) S Ward**

Prerequisite: IM 300 or consent of instructor. Functions and operation, qualifications and duties of staff, selection and evaluation of materials and equipment, unit cost. Integrated field work.

**590. Special Problems in Instructional Media (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Advanced study of special topics and problems in instructional media. A student may enroll for one-three units to a maximum of six units for certificate and degree purposes, subject to suitable change in course content. Non-degree and non-certificate students may enroll for additional units subject to suitable change in course content.

**630. Seminar in Educational Technology (2) F,S Faculty**

Prerequisite: IM 300 or consent of instructor. Analysis of experimental techniques, theory and research in learning, motivation and audience.

**697. Directed Research (1-3) F,S Faculty**

Prerequisites: Consent of instructor, department chair and associate dean. Individual research or intensive study under the guidance of a faculty member. A student may enroll for one-three units to a maximum of three units for certificate and degree purposes, subject to suitable change in course content. Application for enrollment must be made by April 15 for the fall semester or by November 15 for the spring semester.

**698. Thesis (1-6) F,S Faculty**

Prerequisites: Advancement to candidacy, Ed. Psych. 696, approval by director, department chair and associate dean. Planning, preparation and completion of a thesis under supervision of a faculty committee. Must be taken for a minimum of four units. Application for enrollment must be made by April 15 for the fall semester or November 15 for the spring semester.

**Library Education****Lower Division****100. Introduction to Library Use (1) F,S Faculty**

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) S Faculty**

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 Faculty**

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.

**\*490. Special Topics in School Librarianship (1-3) F,S Faculty**

Prerequisite: Consent of instructor or library education coordinator. Topics of current interest in school librarianship selected for intensive development. May be repeated under different topics for a maximum of six units. Not open to students with credit in Lib. Ed. 491.

**\*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. May be repeated for credit to a maximum of six units, with no more than three units applicable to credential or major requirement.

**Graduate Division****510. Selection of Materials (3) F Ward**

Prerequisites: Library Ed. 411, 412, 420; Instructional Media 300, 410 or their equivalent. Criteria, tools, procedures and policies for evaluating and selecting book and non-book materials appropriate to use in various types of libraries. Not open to students with credit in Library Education 410.

**540. Classification and Cataloging of Printed Material (3) F Ward**

Prerequisites: Library Ed. 411, 412, 420; Instructional Media 300, 410 or their equivalent. Philosophy and use of card or book catalogs. Principles in classification and cataloging and practice in applying these principles in school libraries. Acquisition and processing materials as they relate to classification and cataloging. Not open to students with credit in Library Education 400, 441.

**550. School Library Media Center Administration (3) F Ward**

Prerequisites: Library Ed. 411, 412, 420; Instructional Media 300, 410, permission of program adviser. Philosophy, principles and problems of planning, organizing and administering a school library media center and its program in individual schools. Field trips to and observation of library media centers in the public schools.

**581. Field Work in the School Library Media Center (4) F,S Ward**

Prerequisite: Completion of the courses required for the library media credential program or permission of the program adviser. Applications for spring semester must be in the office of the Library Education Adviser by October 1 and for fall semester and summer by March 1. Students will receive practice in administering a library program and services under the supervision of a credentialed librarian. Not open to students with credit in Library Education 481.



# THE UNIVERSITY STUDENT UNION



## 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 as full-time residents at a distinguished foreign university or special study 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 full academic credit for their overseas studies.

Cooperating universities abroad include the University of Sao Paulo, Brazil; The University of Copenhagen, Denmark (through Denmark's International Studies Program); The Universities of Hamburg, Heidelberg, and Tubingen, Germany; the Hebrew University of Jerusalem, Israel; the University of Florence, Italy; Waseda University, Japan; the Universidad Ibero-Americana, Mexico; Massey University and Lincoln University College, New Zealand; the Universidad Catolica, Peru; the Universities of Quebec (Canada); National Chengchi University, the Republic of China (Taiwan); the Universities of Madrid and Granada, Spain; and the University of Uppsala, Sweden.

Eligibility for application is limited to those students who will have upper division or graduate standing by September, 1982 at a CSUC campus, who possess a cumulative grade point average of 2.75 for all college level work completed at the time of application (some programs require a 3.0 cumulative grade point average), and who will have completed required language study where applicable. (Brazil, France, Germany, Mexico, Peru, Quebec francophone universities, and Spain currently require language study.) Selection is competitive and is based on home campus recommendations and the applicant's academic record. Final selection is made by the Office of International Programs in consultation with a statewide faculty selection committee. Applicants to the programs in Israel, Japan, New Zealand, and Quebec must also be accepted by the respective cooperating 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 1982-83 academic year must be submitted by February 9, 1982, except for the program in New Zealand for which applications must be

submitted by May 15, 1982, for participation during calendar year 1983. (The academic year in New Zealand begins in February and ends in October.)

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.

# 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 Extended Education Office respectively. Particular programs are described in the *Summer Session Bulletin Schedule* or in 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."

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# Journalism

## School of Humanities

**Department Chair:** Mr. Ben Cunningham.

**Emeriti:** Dixon L. Gayer, Robert A. Steffes.

**Professors:** Bliss, Cunningham, Stein, Wells.

**Associate Professors:** Ferrell, Garvey, Kelly.

**Credential Adviser:** Mr. James Bliss.

**Academic Advising Coordinator:** Mr. Ben 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. Students will also be counseled into 15 units of study outside of journalism designed to aid in reaching their professional objectives.

*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, 180, 251, 280, 352, 380, 428, 431, 460, 480 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. Students will also be counseled into 15 units of study outside of journalism designed to aid in reaching their professional objectives.

*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, 180, 280, 328, 376, 380, 431, 480, 490 and 498.

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**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, 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. Journalism units, at least 18 of which must be in upper division, shall be selected in consultation with an adviser. These must include Journalism 110, 120, 270, 375, 376, 378, 430 and either 470 or 471. At least one additional course must be chosen from Journalism 312, 412, 419, 460, 494, 498 and 499. Additional recommended courses include Journalism 222, 237, 251, 280, 322, 328, 355, 362, 380, 382, and 490. Students will also be counseled into 15 units of study outside of journalism designed to aid in reaching their professional objectives.

**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 Garvey, Kelly**

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 Faculty**

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.

**180. Introduction to Photojournalism (2) F, S Faculty**

Photography for the photojournalist, writer or editor. Course covers operational techniques of cameras, films and fundamental approaches to producing pictures for newspapers and magazines. Skills are developed through practical exercises in news coverage with laboratory instruction. Laboratory fee required. (Activity, 4 hours.)

**222A,B. Newspaper Production (2,2) 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 Wells, Faculty**

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. (Activity 3 hours.)

**237. Magazine Making and Editing (3) F, S Faculty**

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 Faculty**

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 (2,2) F, S Faculty**

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 Faculty**

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. Intermediate Photojournalism (2) F, S Kelly**

Prerequisites: Journalism 180, Industrial Arts 101 or consent of instructor. Techniques of 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 Stein**

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 Garvey**

Prerequisite: Journalism 120 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.

**322A,B. Advanced Newspaper Production (3,3) F, S Ferrell**

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.)

**324A,B. Photography for Publication (3,3) 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. (Laboratory 4 hours.)

**325. Radio News Writing and Reporting (3) F, S Faculty**

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. (Activity 2 hours.)

**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 Stein, Faculty**

Techniques of writing non-fiction articles with a view toward potential sales to magazines, newspaper syndicates and Sunday supplements.

**362A,B. Advanced Magazine Production (3,3) 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.

**378. Public Relations for Business and Industry (3) F, S Faculty**

Prerequisite: Journalism 270. The use of public relations by business and industry. Application of public relations techniques to the distribution and sale of products and services from the manufacturer to the consumer. Analyzing audiences, creating programs and preparing budgets. Working with the media.

**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 (3,3) F, S Faculty**

Prerequisites: Journalism 120 and 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. (Lecture 1 hour, laboratory 6 hours.)

**412. Theories of Mass Communication (3) F Garvey**

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 Garvey**

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 Faculty**

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 (2,2) F, S Cunningham**

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 Faculty**

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.

**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 Cunningham**

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 Garvey**

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 Cunningham**

Prerequisite: Seniors only by faculty recommendation with 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 Garvey**

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. Student must meet once a week with the instructor.

# Language Skills

## School of Humanities

**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.



# Latin American Studies

## School of Social and Behavioral Sciences

**Director:** Dr. Robert Harman (Anthropology).

**Professors:** Atherton (Economics), Cardenas (Spanish-Portuguese), DeLong-Tonelli (Spanish-Portuguese), Delorme (Political Science), Dixon (Anthropology), Donahue (Spanish-Portuguese), Inostroza (Spanish-Portuguese), Key (Anthropology), McCorkle (Anthropology), Marin (Spanish-Portuguese), Nichols (History), J.R. Powell (Economics), Sater (History), Svec (History), Trinidad (Spanish-Portuguese).

**Associate Professors:** Archuleta (Spanish-Portuguese), Bush (Comparative Literature), H. Cannon (Spanish-Portuguese), Debysingh (Geography), J. Gregory (Anthropology), Harman (Anthropology), K. Jones (Art), Osuna (Mexican-American Studies), Ramirez (Mexican-American Studies), Sanchez (Mexican American Studies), Schmitt (Spanish-Portuguese).

**Assistant Professors:** M. Farrell (Economics), Lopez (Mexican-American Studies).

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 this *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 or 345, three units of geography selected from Geography 321 or 322, three units of history selected from History 162A, 162B, 362, 364, three units of political science selected from Political Science 358, 359, 459 or 461.
  - (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, 345; Art 393A-B; Comparative Literature 440; Geography 321, 322; History 162A, B, 362, 364, 433, 462, 463, 464, 465, 467, 473A; Mexican American Studies 305, 312, 380, 400, 420, 425; Political Science 358, 359, 459, 461; 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 in Psychology 141.

# Legal Studies in the Liberal Arts

School of Social and Behavioral Sciences

**Director:** Dr. Albie Burke.

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.

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### *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, 355, 440; Political Science 376, 412, 415, 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.

# Liberal Studies Major

## 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-Instructional Programs.

**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; 12 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 Academic Advising Center, Library E-106.



**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	German
American Studies	History
Anthropology	Human Development
Art	Latin American Studies
Asian American Studies	Mathematics
Bilingual Spanish/English	Mexican American Studies
Biology	Music
Black Studies	Philosophy
Comparative Literature	Psychology
Economics	Religious Studies
English	Russian
French	Sociology
Geography	Spanish
Geology	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 or 180. 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, 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, 414; English 320 or 325, 420, 421, 423, 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, 435, 446. No more than two courses may count toward the 18 unit minimum.

**Group 4. English and American Literature**

American Indian Studies 340; Black Studies 340, English 250A, 250B, 363, 370A, 370B, 385, 386, 398, 467A, 467B, 468, 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, 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, Geology 100. 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, 390.

**Group 2. Non-European Cultures**

American Indian Studies 100, 101, 320; Anthropology 321, 322, 323, 324, 327, 331, 332, 336; Art 113A, 113B; Black Studies 140, 160, 200, 337, 343; Comparative Literature 124, 234, 325, 403; History 181, 182, 382A, 382B, 383A, 383B, 385A, 385B, 491; 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, Religious Studies or foreign languages departments.

# Linguistics

## School of Humanities

**Director and Graduate Adviser:** Dr. Janet B. Sawyer.

**Professors:** Cardenas, Inostroza, Key, McCone, Penalosa, Sawyer, Thomas, Trinidad.

**Associate Professors:** Borowiec, Hertz, Ross, Smith.

**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.

The program for the M.A. degree in linguistics is designed along interdisciplinary lines within the School of Humanities to accommodate a broad range of student interest in the field of linguistics. The degree program provides for students who are seeking teaching credentials and for those preparing for further graduate work elsewhere. A *Handbook for the Master's Degree in Linguistics* is available from the director, Dr. Janet B. Sawyer, HOB-408.

Graduate assistantships are sometimes available to qualified students.

### Master of Arts Degree with a Major in Linguistics (code 5-6833)

#### Prerequisites

1. A bachelor's degree which must include upper division units in the following categories:
  - a. Nine units in linguistics (descriptive linguistics, historical or comparative linguistics, dialectology, ethno-linguistics, psycholinguistics, sociolinguistics).
  - b. Six units in a foreign language.
  - c. Nine units of additional Group I Linguistic Courses, Group II Language and Language Related Courses and/or Group III Supporting Courses.
2. Students whose undergraduate prerequisites are inadequate will be required to fulfill these deficiencies before advancement to candidacy. These deficiencies will be determined by the director.

**Advancement to Candidacy**

1. Satisfaction of the general University requirements for advancement to candidacy.
2. Approval of the candidate's graduate program by the director.

**Requirements for the Master of Arts**

1. A minimum of 30 units of approved upper division and graduate courses with at least 24 units in linguistics and in language and language related courses. Eighteen units must be approved linguistic courses from Group I.
2. Eighteen units of 500/600 level courses with a minimum of 12 from Group I Linguistics. The 500/600 level courses must include the following:
  - a. Six units of descriptive linguistics selected from Anthropology 570, 597, 630; English 525, 620, 623; Linguistics 697.
  - b. Three units of historical linguistics selected from English 521; Spanish 505, 515; Linguistics 697.
  - c. No more than three units of Linguistics 697 may be used to satisfy degree requirements.
3. A maximum of six units of Group III Supporting Courses may be selected with approval of the director.
4. A comprehensive examination is required of all students. The student may elect to write a thesis in addition to this comprehensive examination.

**Upper Division and Graduate Level Courses Acceptable for the Master's Degree****Group I Linguistic Courses****Anthropology**

414. Linguistic Anthropology (3)  
 470. Linguistic Methodology (3)  
 499. Guided Studies in Linguistics (1-3)  
 530. Core Course, Linguistics (3)  
 597. Directed Readings in Linguistics (3)  
 630. Seminar in Anthropological Linguistics (3)

**French**

414. French Phonetics (3)

**German**

303. German Linguistics (3)

**Mexican American Studies**

402. Bilingual Linguistics (4)  
 403. Dialectology of the Southwest (3)

**Psychology**

438. Psycholinguistics (3)

**English**

420. Structure of Modern English: Phonology (3)  
 421. Structure of Modern English: Morphology and Syntax (3)  
 498. Topics in English (Linguistics) (1-4)  
 521. Historical Linguistics (4)  
 525. Analytical Phonology (4)  
 620. Seminar in Special Topics in Linguistics (4)  
 623. Seminar in Dialect Study (4)

**Spanish**

425. Spanish Phonetics and Phonology (3)  
 426. Spanish Morphology and Syntax (3)  
 427. Contrastive Analysis of Spanish and English (3)  
 505. History of the Spanish Language (3)  
 515. Romance Linguistics (3)

**Linguistics**

697. Directed Research (1-3)  
 698. Thesis (2-6)

**Group II Language and Language Related Courses**

Approved sequence of foreign language courses (other than linguistics).

- Anthropology 354. Communications Across Cultures (3)  
 Anthropology 440. Symbols, Cognition and Culture (3)

- English 423.  
 English 426.  
 English 428.  
 English 429.  
 English 528.  
 Philosophy 470.  
 Philosophy 484.  
 Psychology 434.  
 Psychology 455.  
 Sociology 435.  
 Sociology 485.

- Semantics (3)  
 History of the English Language (3)  
 Applied Linguistics (3)  
 Language Strategies for Bilingual-TEFL Classrooms (3)  
 Current Issues in English as a Second Language (4)  
 Symbolic Logic II (3)  
 Philosophy of Language (3)  
 Cognition (3)  
 Psychology of Persuasion (3)  
 Symbolic Behavior (3)  
 Sociology of Language (3)

**Group III Supporting Courses (listed under department)**

1. Cultural anthropology and English literature courses.
  2. Communication and interpretation courses in psychology, sociology and speech.
  3. Logic and epistemology courses in mathematics and philosophy.
  4. Education courses that include the application or practice of linguistic training.
- Graduate course descriptions are found in the departmental listings in which they are offered.

**Graduate Courses****697. Directed Research (1-3) F,S Faculty**

Prerequisite: Consent of graduate committee. Research in linguistics on an individual basis.

**698. Thesis (2-6) F,S Faculty**

Prerequisite: Consent of graduate committee. Planning, preparation and completion of a thesis in linguistics.



# Management and Human Resources Management

School of Business Administration

**Department Chair:** Dr. Robert J. Smith.

**Emeritus:** Glenn H. Stewart, Dale M. Yoder.

**Professors:** Bates, Gregory, Hamburger, Heise, Kirkpatrick, Laufer, Metzger, Quinn, Simons, Smith, Stanton, Stone, Teel, Traynor.

**Associate Professors:** Campo-Flores, DeVoe, Ford, Hermann, Inderlied, Lewis, Monat, Morse, Sartore, Whitcomb.

**Assistant Professor:** O'Donnell.

**Undergraduate Advisers**

Management Option: Dr. Gerald L. Ford.

Human Resources Management Option: Dr. Robert M. Simons.

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## Management

For all degree requirements see Business Administration.

## Management

### Upper Division

#### **300. Operations Management (3) F, S Bates, DeVoe, Laufer, 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 Campo-Flores, Hamburger**

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 Hamburger, Heise, Morse**

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.

**\*402. Inventory Management (3) F, S DeVoe**

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 Campo-Flores, Ford, Kiang**

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 DeVoe, Kiang**

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 DeVoe, Kiang**

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 Campo-Flores Heise, Smith**

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 Hamburger, 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) Bates, Heise**

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.

**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 advanced nature in management.

**Graduate Prerequisite Course****500. Business Policies, Operations and Organization (3) F, S Faculty**

Prerequisite: Graduate standing. Recommended preparation: Quantitative Systems 410. Theory and philosophies of industrial management, principles of internal industrial organization and control systems, motion and time study, industrial statistics, industrial safety and industrial research as aids to decision making. Administrative organization systems, information systems, management functions, decision making, strategies and policy formulation. Not open to students with credit in Management 300, 425, 412G or 500.

**Graduate Division****541. Industrial Logistics (3) S DeVoe, Kiang**

Prerequisites: Minimum of three units in operations management and three units in marketing or consent of instructor. Systems analysis and synthesis of the general logistics system containing the marketing, production and transportation activities. Emphasis placed on definition of system components of outputs, activities and inputs and the specification and quantification of the major functional relationships interrelating these components.

**542. Enterprise Structure and Operation (3) F Hamburger, Smith**

Prerequisite: Graduate standing or consent of instructor. Systems analysis and synthesis of the general enterprise system composed of the logistics, money, information, talent and decision sub-systems. Emphasis on the examination of the components of each of the sub-systems and how they interrelate in the operation of the total enterprise. Systems approach of defining outputs, activities and inputs is used as the vehicle for analysis.

**543. International Business Policy (3) F Bates, Campo-Flores, Kiang**

Prerequisites: Nine units of 500/600 level courses in the area of international business. Analysis of current theory and principles of international business management pertaining to problems of formulating policy and developing strategies and tactics in the multinational corporation; case studies, readings, logistic analysis and research report.

**544. Management and Operations Management Decision Making (3) S DeVoe, Kiang, Laufer**

Prerequisites: Quantitative Systems 210; Management 500 or Management 300 and 425. Basic course in quantitative tools vital to the successful managerial planning, control and organization. A thorough study of how systems analysis, network analysis and probability can be applied in these critical managerial functions. Emphasis is on the application rather than derivation.

**640A,B. Seminar in Operations Management (3,3) S DeVoe, Kiang**

Prerequisite: Management 300 or 500. Application of analytical techniques to selected problems and case studies in industrial management. GBA 640A not open to students with credit in Management 600.

**641. Seminar in Advanced Production-Inventory Systems (3) F DeVoe**

Prerequisites: Management 402 and 300 or 500. Application of newly developed techniques to production planning and scheduling; deterministic and stochastic demands in inventory control.

**642. Seminar in Operations Management Simulation (3) S DeVoe**

Prerequisites: Management 402 and 442 or consent of instructor. Design and testing of simulation models of operations management systems. Use of the techniques, models and programming languages available as tools for solution of operating systems. Individual and group assignments in the construction and programming of an operations management model.

**643. Seminar in Sociotechnical Systems (3) F Hamburger, Smith**

Prerequisite: Management 422. Advanced topics in design of work environments. The interplay between industry, community and management.

**645A,B. Seminar in Management Policy and Problems (3,3) F,S Bates, Metzger, Stanton**

Prerequisite: Management 425 or 500 or consent of instructor. History of management thought; business organization, strategies and policies; executive control; managerial problems. GBA 645A not open to students with credit in Management 625.

**646A,B. Seminar in Organization Analysis (3,3) S Bates, Campo-Flores Smith, Stanton**

Prerequisite: Management 425 or 500 or consent of instructor. Scientific analysis of organization. The management function; audit of management performance. GBA 646A not open to students with credit in Management 626.

**647A,B. Seminar in Management Planning and Control Systems (3,3) F,S Kiang**

Prerequisite: Management 425 or 500 or consent of instructor. Analysis of planning and control systems in management. Cases and problems will be examined.

**695. Selected Topics (3) F,S Faculty**

Prerequisite: Consent of instructor. Topics to be announced in the *Schedule of Classes*. Topics change each offering and in the absence of significant duplication the course may be repeated once for credit.

**697. Directed Studies (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Individual study under the direction of the faculty.

**Human Resources Management****Upper Division****360. Behavioral Sciences and Management (3) F,S Gregory, Lewis, O'Donnell, Simons, Whitcomb**

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. Human Resources Management (3) F,S Monat, O'Donnell, Quinn Traynor, Teel**

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 Monat**

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 Monat**

Prerequisite: Human Resources 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 Faculty**

Prerequisite: Human Resources 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.

**461. Equal Employment Opportunity Management (3) F,S Kirkpatrick**

Prerequisite: Human Resources Management 360 or 361 or consent of instructor. Review and evaluation of problems in employment discrimination from an historical and psychological perspective. Problem areas include race, sex, national origin, religion, age, handicapped, and sexual preference discrimination in all major phases of employment.

**\*463. Personnel Development (3) F,S Monat, Traynor**

Prerequisite: Human Resources 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 Lewis, Simons, Whitcomb**

Prerequisite: Human Resources 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: Human Resources 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 Whitcomb**

Prerequisite: Human Resources 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 human resources management. Topics of current interest in human resources 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 human resources management. Individual projects, study and research of advanced nature in human resources management.

**Graduate Prerequisite Course****500. Human Resources Management (3) F,S O'Donnell**

Prerequisite: Graduate standing. Principles, practices and techniques of employee-employer relations. Significance of labor-management relations. Effective use of human resources. Not open to students with credit in Human Resources Management 461G or 500.

**Graduate Division****552. Comparative Labor Relations Systems (3) F Simons**

Prerequisite: Human Resources Management 361, 440 or GBA 650. Comparative cross-country survey and analysis of the history, structure, institutional arrangements and philosophy of the labor relations systems in advanced, developing and underdeveloped countries. Comparative survey and analysis of labor and management relations and the role of government in industrial relations particularly in the settlement of industrial disputes.

**554. Labor Arbitration (3) S Monat**

Prerequisite: Human Resources Management 440 or consent of instructor. Application through case analysis of the principles, practices and techniques of labor arbitration. Course will include the preparation and handling of materials in briefs and oral presentations. Special attention is given to the conduct of labor relations under a collective bargaining agreement, such as union security, seniority, discipline, transfers and promotions, management rights and grievance procedures and arbitration.

**556. Fair Employment Practice (3) F,S Kirkpatrick**

Prerequisite: Graduate standing. Consideration of the special management problems in working toward the goal of equal employment opportunity and affirmative action compliance. Emphasis will be placed on management policies and practices with respect to minority, sex, age, handicapped, and other discrimination issues.

**650. Seminar in Labor Relations (3) S Monat, Faculty**

Prerequisite: Human Resources Management 362 or 440. Intensive analysis of current problems of labor and management.

**652. Seminar in Personnel Management (3) F,S Gregory, Simons**

Prerequisite: Human Resources Management 361 or 500. Case approach to human relations problems confronting business executives.

**655. Seminar in Employee Motivation (3) F Teel**

Prerequisite: Human Resources Management 360 or 464 or consent of instructor. Survey and analysis of research studies of the relationship between employee motivation and productivity. Critical review of theories of human motivation and the data supporting them. Emphasis on applications of motivation theory in the industrial environment.

**657. Seminar in Leadership Skills (3) F,S Quinn**

Study of leadership skills, such as self-awareness, problem solving, communication, interpersonal and leadership situation awareness. Case studies, class discussion, psychological tests, TV taping, student presentations and lectures are used.

**695. Selected Topics (3) F,S Faculty**

Prerequisite: Consent of instructor. Topics to be announced in the *Schedule of Classes*. Topics change each offering and in the absence of significant duplication the course may be repeated once for credit.

**697. Directed Studies (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Individual study under the direction of the faculty.

# Marketing

## School of Business Administration

**Department Chair:** Dr. Robert T. Holmes.

**Emeritus:** Charles E. Wolff.

**Professors:** Ash, Butcher, Cotta, Fay, Frye, Hall, Harding, Holmes, Marshak, Palubinskas, Spiller, Stuteville.

**Associate Professors:** Dimerdjian, Klein.

**Undergraduate Adviser:** Department Chair.

For all degree requirements see **Business Administration**.

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### Upper Division

#### 300. Marketing (3) F, S Faculty

Recommended preparation: 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, Cotta, Holmes

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, Klein

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. International Business (3) F Spiller, Faculty**

The extent and expansion of world markets, the flows of trade and U.S. participation therein. Opportunities and problems arising from participation in export/import, transportation, and other aspects of international business. 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 Klein**

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.

**476 404. 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**

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 responsibility. Same course as Finance 432.

**\*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.

**\*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 logistics and transportation. 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 Prerequisite Course****500. Marketing Concepts (3) F, S Faculty**

Prerequisites: Graduate standing, consent of instructor. Critical practices in context of changing economic, social and governmental conditions. Readings, case analysis and research on problems of current interest.

**Graduate Division****660. Seminar in Marketing Theory (3) F Ash, Butcher, Cotta, Harding, Holmes**

Prerequisite: Marketing 500 or 408. Current marketing thought as a basis for the understanding of marketing interactions.



**661. Seminar in Marketing Policies (3) F,S Ash, Harding, Holmes, Spiller**  
Prerequisite: Marketing 500 or 408. Current marketing problems, both technological and social, and their relation to population, income, channels of distribution, government regulation of marketing, executing product development, and the sales organization.

**662. Seminar in Marketing Environment and Institutions (3) S Ash, Butcher, Stuteville**  
Prerequisite: Marketing 500, or 300 and 310. Analysis of the environment in which marketing institutions operate, with an accent on prognostication of marketing institutions.

**663. Seminar in Advertising Policies (3) F,S Harding**  
Prerequisites: Marketing 330, 408 or 500. Advertising policies and problems. Case studies in executive determination of basic strategy, promotional programs, advertising administration, physical and psychological aspects, determination of effectiveness and coordinative concepts. Special problems of economic justification; ethics and government regulation.

**664. Seminar in Transportation (3) F or S 1981-83 Hall, Harding**  
Prerequisite: Marketing 340. National transportation policy and current management problems.

**665. Seminar in Marketing Research (3) F,S Frye**  
Prerequisite: Marketing 500 or 408. The role of research in the solution of marketing problems. Research methods in assembling, analyzing, and interpreting information for business use. Case studies and class projects may be required.

**666. Seminar in International Marketing (3) S Palubinskas**  
Prerequisite: Consent of instructor. Enterprise adjustment to the dynamics of international socio-economic environment; development of strategy for solution of marketing problems caused by changing technology, social and economic development and changing objectives of governmental commercial policy.

**667A. Seminar in International Business—Africa and the Near East (3) S, alternate years Faculty**  
Prerequisite: Marketing 380 or 480 or Finance 490 or Management 405. Environmental conditions, requirements and problems confronting business in the countries of Africa and the Near East. Research and analysis of the impact and potential of this area in world markets.

**667B. Seminar in International Business—Asia and Oceania (3) F, alternate years Faculty**  
Prerequisite: Marketing 380 or 480 or Finance 490 or Management 405. Environmental conditions, requirements and problems confronting business in the countries of Asia and Oceania. Research and analysis of the impact and potential of this area in world markets.

**667C. Seminar in International Business—Europe (3) F, alternate years Palubinskas**  
Prerequisite: Marketing 380 or 480 or Finance 490 or Management 405. Environmental conditions, requirements and problems confronting business in the countries of Europe. Research and analysis of the impact and potential of this area in world markets.

**667D. Seminar in International Business—Latin America (3) S, alternate years Spiller**  
Prerequisite: Marketing 380 or 480 or Finance 490 or Management 405. Environmental conditions, requirements and problems confronting business in the countries of Latin America. Research and analysis of the impact and potential of this area in world markets.

**668. Seminar in Consumer Behavior (3) F Klein, Stuteville**  
Prerequisite: Consent of instructor. Topics in the behavioral sciences as they apply to marketing.

**695. Selected Topics (3) F,S Faculty**  
Prerequisite: Consent of instructor. Topics to be announced in the *Schedule of Classes*. Topics change each offering and in the absence of significant duplication the course may be repeated once for credit.

**697. Directed Studies (1-3) F,S Faculty**  
Prerequisite: Consent of instructor. Individual study under the direction of the faculty.

# Mathematics

## School of Humanities

**Department Chair:** Dr. Arthur P. Gittleman.

**Department Vice-Chair:** Dr. Samuel G. Councilman.

**Professors:** Afflack, Ali, Austin, Bachar, Beckwith, Cohen, Fatt, Foster, Gittleman, James, Lu, McCullough, McLeod, Manheim, Mardellis, Margulies, Martinez, Schwartz, Seewerker, Sexauer, Smith, Smoke, Turner, Verdina, Warner, Wilson.

**Associate Professors:** Albert, Baugh, Black, Conroy, Councilman, Dorn, Eylar, Froyd, Harvey, Maltz, Stein.

**Assistant Professors:** Lax, Wayman.

**Credential Adviser:** Mr. Robert K. Froyd or Dr. Arthur P. Gittleman.

**Undergraduate Advising Coordinator:** Dr. Carl H. Dorn.

**Graduate Adviser:** Dr. Howard J. Schwartz.

**Math Student Association Liaison:** Dr. Carl H. Dorn.

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In the Mathematics Department the student can design a program of study including pure and applied mathematics, computer science or statistics.

### Undergraduate Degree Program

The Mathematics Department offers four undergraduate degree programs in the mathematical sciences.

#### 1. *Bachelor of Arts in Mathematics*

The student in this program is required to take a selection of fundamental courses in algebra and analysis. It is the most flexible program, in which the greatest number of electives may be chosen by the student. Elective upper division mathematics courses are available which meet the needs of students preparing for a variety of goals, including careers in industry and government, secondary teaching and graduate study. Students who do not wish to complete the requirements for a formal option in applied mathematics, computer science or statistics may wish to elect courses in one or all of these areas as part of this degree program.

#### 2. *Bachelor of Arts in Mathematics with an Option in Applied Mathematics*

The student who is most interested in the applications of mathematics has a choice of two suboptions: the first concentrates on the applications in engineering and science while the second concentrates on the applications to management. In both suboptions courses are specified in the major areas of applied mathematics and in the field of application. The student is prepared for a career in business, industry or government or for graduate study.

### 3. Bachelor of Arts in Mathematics with an Option in Computer Science and Mathematics

The student interested in computer science pursues a program of study covering the major areas of computer science and the mathematics used in computer science and its applications. The development of software for computer systems and business and scientific applications is studied with an aim to preparing the student for careers in the rapidly changing field of computer science or for graduate study. Ample opportunity is provided for the student to choose electives in engineering and/or business.

### 4. Bachelor of Arts in Mathematics with an Option in Statistics.

The student interested in statistics may pursue a program of study covering the main concepts of probability and statistics. Electives are required in an area in which statistics is used such as business or psychology. Students are prepared for careers as statisticians in government or industry or for graduate study.

### Graduate Degree Programs

The Mathematics Department offers a program leading to a Master of Arts in Mathematics. The student may choose courses from the core areas of algebra, topology and analysis as well as courses in applied mathematics and statistics. Many diverse undergraduate courses may also be applied to the degree. Extensive flexibility exists to choose courses in pure mathematics or applied mathematics to meet individual needs and interests.

A number of teaching assistant positions are available to qualified graduate students. Teaching assistants usually teach two classes under the supervision of a faculty member. Applications for a position should be made to the chairman of the Mathematics Department.

### Non-Major Programs

The Mathematics Department offers a wide variety of courses designed to meet the needs of students majoring in other disciplines. Students may elect to complete the requirements for a minor in mathematics and have that so noted on their transcripts.

### Major in Mathematics for the Bachelor of Arts Degree (code 2-6666)

**Lower Division:** English 101 or 300 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 345 or 346, 361A-B, 364A and 444 but not 311, 370A or B.

To achieve flexibility, only 15 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 Applied Mathematics (code 2-6608)

**Suboption I:** Area of application in science and engineering

**Lower Division:** English 101 or 317; Mathematics 122, 123, 224, 270, 272; Physics 151, 152; Physics 153 or Electrical Engineering 210 or Civil Engineering 205.

**Upper Division:** Mathematics 323, 345, 361A, 361B, 364A, 364B, 470. A minimum of 12 units from the following: Mathematics 324, 375, 380, 381, 382, 421, 442, 461, 463, 472, 479, 485. A minimum of 11 units from one of the following three groups:

- Physics 310, 311, 340A, 340B, 410, 450.
- Electrical Engineering 310, 320, 370, 410, 462, 471, 482.
- Civil Engineering 335, 359, 437, 438, 458, 494, Mechanical Engineering 371, 373, 437, 475.

### Suboption II:

 Area of application in management

**Lower Division:** English 101 or 317; Mathematics 122, 123, 224, 270, 272; Economics 200, 201, or Economics 300.

**Upper Division:** Mathematics 345, 361A, 361B, 364A, 380, 381, 382; Quantitative Systems 460; Economics 333. A minimum of 10 units from the following courses: Mathematics 323, 324, 463, 479, 480, 485; Quantitative Systems 463. A minimum of 15 units of which nine units must be in Management from the following courses:

Management 300, 402, 406, 407, 422, 426;  
Quantitative Systems 442, 445, 466;  
Economics 486.

### Option in Computer Science and Mathematics (code 2-6667)

**Lower Division:** English 101 or 317; Electrical Engineering 101; 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 321, 323, 325, 326, 343, 324 or 346 or 345, 364A or 380; Electrical Engineering 444; and eight units of approved electives.

### Option in Statistics (code 2-6008)

**Lower Division:** English 101 or 317, Mathematics 122, 123, 224; 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, 361A, 380, 381, 382 and three units of Mathematics 480 or 497 taken after completion of Mathematics 380. Mathematics 361B is 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 pursue graduate studies in mathematics should take Mathematics 444. The following courses are approved statistics option electives: Quantitative Systems 445, 463; Psychology 315, 403, 411, 412; Sociology 455.

### Minor in Mathematics (code 0-6666)

Requirements for the minor in mathematics include Mathematics 122, 123 and 12 units of upper division mathematics.

### 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.

### Master of Arts Degree with a Major in Mathematics (code 5-6666)

#### Prerequisites

- A bachelor's degree in mathematics from an accredited college or university (deficiencies will be determined by the adviser after consultation with student and study of transcript records), or:
- A bachelor's degree with a minimum of 24 upper division units in mathematics.
- Courses must include Mathematics 345 or 346, 361A-B, 364A and 444.



**Advancement to Candidacy**

The student must pass a written, qualifying examination covering work normally studied in Mathematics 346, 361A-B, 364A and 444.

**Requirements for the Master of Arts**

1. A minimum of 24 graduate and approved upper division units in mathematics including:
  - a. One of the sequences Mathematics 540A-B, 550A-B, 561A-B, 562A-B or two courses from 570, 575, 580, 590.
  - b. Two additional courses selected from Mathematics 540A, 550A, 561A or 562A.
  - c. A minimum of 15 units of graduate courses in mathematics not including either Mathematics 697 or 698.
2. Six units of approved upper division or graduate electives to total 30 units for the degree.
3. Fulfill the requirements in either Option A or Option B.
  - a. Option A—pass a comprehensive written examination.
  - b. Option B—subject to the approval of the Graduate Committee of the Department of Mathematics, write a thesis in mathematics and defend it orally.

**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 equations 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 Faculty**

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 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. Combinatorial techniques and introduction to probability. Equations of lines and systems of linear equations, matrices, introduction to linear programming.

**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) 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 3 years of high school mathematics including at least 2 years of algebra and 1 year of trigonometry, or Mathematics 101 or 102. Properties of elementary functions, binomial theorem, matrices and determinants, conic sections and selected topics. Not open to students with credit in Mathematics 122. (Lecture 3 hours, problem session 2 hours.)

**120. Calculus for Technology (4) F, S Faculty**

Prerequisite: Mathematics 102 or both 101 and 100 or two years of high school algebra including trigonometry. Real numbers and functions; limits and continuity; differentiation and integration of functions of one variable. Introduction to calculus of several variables. Applications to science and technology. Not open for credit to students with credit in Mathematics 115, 115B, 115S or 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. Derivatives and applications of the derivative. Integration and applications of integration. Analytic geometry. (Lecture 3 hours, problem session 2 hours.)

**123. Calculus II (4) F, S Faculty**

Prerequisite: A grade of C or better in Mathematics 122. Transcendental functions. Techniques of integration. Further applications of the integral. Infinite series. (Lecture 3 hours, problem session 2 hours.)

**170. Introduction to Programming (1-2) F, S Faculty**

Introduction to computing using a conversational 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.)

**207. Math Without Fear (3) F, S Afflack**

The course will help students strengthen their problem solving abilities while developing their quantitative skills. A broad range of topics in mathematics will be covered with emphasis being placed on recognizing patterns, analyzing problems and generalizing concepts. Not open for credit to mathematics majors.

**224. Calculus III (4) F, S Faculty**

Prerequisite: A grade of C or better in Mathematics 123. Vectors and parametric equations. Solid analytic geometry. Multiple integrals. Line and surface integrals. Green's Theorem. Stokes' Theorem and the Divergence Theorem. (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 Faculty**

Prerequisite: Mathematics 117 or consent of instructor. Computers and algorithms. Programming in BASIC and FORTRAN. Computer solution of numerical and nonnumerical problems using these languages. (Lecture 2 hours, problem session 2 hours.)

**272. Techniques of Programming (4) F, S Faculty**

Prerequisite: Mathematics 270. Elements of programming style, structured programming, algorithmic analysis and the PASCAL language. 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. Same course as Computer Studies 273. (Lecture 3 hours.)

**295. Topics in Mathematics (1-3) F, S Faculty**

Prerequisite: Consent of instructor. Topics in mathematics for students interested in mathematics education or in pure or applied math. Specific topics will be announced in the *Schedule of Classes*. May be repeated with different topics for a maximum of six units of credit.

**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, 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.

**311. Topics of Enrichment in Mathematics for the Elementary Teacher (3) F Afflack, Manheim**

Prerequisites: One year of high school algebra, one year of high school geometry and possession of a valid teaching credential or consent of instructor. Enrichment topics in mathematics for the elementary teacher, such as theory of arithmetic, numeration systems, elementary logic, mensuration, metric system, topological equivalence, probability and statistics and network theory. Not open for credit to mathematics majors.

**317. Introduction to Abstract Mathematics (3) F, S Faculty**

Prerequisite: Mathematics 123. Introduction to topics which form a background for the study of abstract mathematics with emphasis on methods of developing and writing proofs. Topics will include set theory, complex numbers and abstract algebra. Not open for credit to anyone with a grade of C or better in Mathematics 444.

**321. Files and Database Systems (4) F Seewerker**

Prerequisite: Mathematics 272 or Electrical Engineering 340. Introduction to file processing, file organization and data management systems. Computer projects in the design and implementation of such systems. (Lecture 3 hours, problem session 2 hours.)

**323. Introduction to Numerical Analysis I (4) F,S Cohen, Lax, Lu**

Prerequisites: Mathematics 224, 270. Numerical solution of nonlinear equations, systems of linear equations, and ordinary differential equations. Interpolating polynomials, numerical differentiation, and numerical integration. Computer implementation of these methods. (Lecture-discussion 3 hours, problem session 2 hours.)

**\*324. Introduction to Numerical Analysis II (4) S Cohen, Lax**

Prerequisite: Mathematics 323 or equivalent. Numerical solution of systems of equations, calculation of algebraic eigenvalues, method of least squares, solution of partial differential equations. Computer implementation of these methods. (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. Operating Systems (4) F, S Margulies, Seewerker**

Prerequisite: Mathematics 325 or consent of instructor. Input-output, interrupt 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 Beckwith, Mardellis, 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) S Albert**

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 Baugh, Margulies, Wayman**

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.

**345. Applied Linear Algebra (3) F,S Faculty**

Prerequisite: Mathematics 224. Matrix algebra, solution of systems of equations, determinants, eigenvalues, eigenvectors, diagonalization, triangularization, quadratic forms, linear transformations in the space  $\mathbb{R}^n$ . Emphasis on topics with applications in science and engineering. Not open to students with credit in Mathematics 346.

**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. Not open to students with credit in Mathematics 345.

**350. Projective Geometry (3) S Albert, 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 Councilman, Eylar**

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 Albert, Verdina**

Prerequisite: Mathematics 116 or 123. Transformations, motions, similarities, geometric objects, congruent figures, the axioms of geometry, and selected topics in advanced Euclidean geometry.

**361A. Introduction to Mathematical Analysis I (3) F,S Faculty**

Prerequisite: Mathematics 224. Rigorous study of calculus and its foundations. Structure of the real number system. Sequences and series of numbers. Limits, continuity and differentiability of functions of one real variable. Not open to students with credit in Mathematics 460A.

**361B. Introduction to Mathematical Analysis II (3) F,S Faculty**

Prerequisite: Mathematics 361A. Riemann integration. Topological properties of the real number line. Sequences of functions. Introduction to the calculus of several variables. Not open to students with credit in Mathematics 460B.

**364A. Ordinary Differential Equations I (3) F, S Fatt, Lax, Lu**

Prerequisite: Mathematics 224. First order differential equations; undetermined coefficients and variation of parameters for second and higher order differential equations; series solution of second order linear differential equations; systems of linear differential equations; applications to science and engineering.

**\*364B. Ordinary Differential Equations II (3) S Fatt, Lax, McLeod**

Prerequisite: Mathematics 364A. Existence-uniqueness theorems; Laplace transforms; difference equations; nonlinear differential equations; stability. Sturm-Liouville theory; applications to science and engineering.

**370A. Applied Mathematics I (3) F, S Faculty**

Prerequisite: Mathematics 224. First order ordinary differential equations, linear second order ordinary differential equations, numerical solution of initial value problems, Laplace transforms, matrix algebra, eigenvalues, eigenvectors, applications. Not open for credit to mathematics majors.

**370B. Applied Mathematics II (3) F, S Faculty**

Prerequisite: Mathematics 370A. Fourier series, separation of variables for partial differential equations, special functions, functions of a complex variable, contour integration, applications. Not open for credit to mathematics majors.

**375. Vector Analysis (3) S Faculty**

Prerequisite: Mathematics 224. The algebra and calculus of vectors; applications to geometry. Vector and scalar fields and curl. Applications in mechanics and electromagnetism. Introduction to tensor analysis.



**380. Introduction to Probability and Statistics (3) F,S Black, Cohen, Maltz, Martinez, Smoke**

Prerequisite: Mathematics 224. Frequency interpretation of probability. Axioms of probability theory. Discrete probability and combinatorics. Random variables. Distribution and density functions. Moment generating functions and moments. Sampling theory and limit theorems. Estimation and hypothesis testing. Not open to students with credit in Mathematics 380A or 382A.

**\*381. Mathematical Statistics (3) S Black, Cohen, Maltz, Martinez**

Prerequisite: Mathematics 380. Linear algebra recommended. Maximum likelihood and method of moments estimation. Efficiency, unbiasedness, and asymptotic distribution of estimators. Neyman-Pearson Lemma. Goodness-of-fit tests. Correlation and regression. Experimental design and analysis of variance. Non-parametric methods. Not open to students with credit in Mathematics 380B.

**\*382. Random Processes (3) F,S Albert, Black, Foster, James**

Prerequisite: Mathematics 380. Further topics in probability. Markov processes. Renewal theory. Random walks. Queuing theory. Poisson processes. Brownian motion. Not open to students with credit in Mathematics 382B.

**\*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 Structures and Files (3) S Seewerker**

Prerequisite: Mathematics 272 or 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.

**\*435. Introduction to Set Theory (3) F Beckwith, Turner**

Prerequisite: Six units of upper division mathematics or consent of instructor. Axioms for set theory; relations and functions, orders; proof and definition by induction; well-ordered sets; transfinite induction and recursion; ordinal and cardinal numbers; Axiom of Choice, well-ordering principle, Zorn's Lemma and their equivalents; continuum hypothesis; ordinal and cardinal arithmetic.

**\*440. Number Theory I (3) F Baugh, Eylar, Gittleman**

Prerequisite: Mathematics 224. Divisibility, congruences, primitive roots, continued fractions, algebraic numbers, partitions.

**\*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.

**\*451. Differential Geometry (3) F Baugh, Fatt, Margulies, Stein**

Prerequisite: Mathematics 364A or 370A (either can be taken concurrently). Structure of curves and surfaces in space, including Frenet formulas of space curves; frame fields and connection forms; geometry of surfaces in Euclidian three space; Geodesics and connections with general theory of relativity.

**\*461. Complex Variables (3) S Beckwith, Smith**

Prerequisite: Mathematics 361A. Theory and applications of complex variables. Analytic functions, integrals, power series and applications.

**\*463. Multivariable Calculus (3) F Margulies**

Prerequisites: Mathematics 346, 361B. Topology of Euclidian spaces. Partial derivatives. Derivatives as linear transformations. Inverse and implicit function theorems. Jacobians, vector calculus, Green's and Stokes' theorems. Variational problems.

**\*470. Introduction to Partial Differential Equations (3) F Fatt, Lu, Margulies**

Prerequisite: Mathematics 370A or 364A. First and second order equations, characteristics, Cauchy problems, elliptic, hyperbolic, and parabolic equations. Introduction to the boundary and initial value problems and their applications.

**\*472. Fourier Series (3) F McLeod, Warner**

Prerequisite: Mathematics 364A or 370A. Theory of Fourier series and its application to boundary value problems.

**\*473. Laplace Transform (3) S James, McLeod**

Prerequisite: Mathematics 364A or 370A. Theory of the Laplace transform and its application to linear problems in electrical, mechanical and thermal systems.

**\*479. Mathematical Modeling (3) S Lax, McLeod**

Prerequisites: Mathematics 364A or 370A, 345 or 346, and consent of instructor. Application of mathematics to develop models of phenomena in science, engineering, business and other disciplines. Evaluation of the benefits and limitations of mathematical modeling.

**\*480. Topics in Probability and Statistics (3) F,S Foster, Maltz**

Prerequisites: Mathematics 380, consent of instructor. Topics of current interest in probability and/or statistics. May be repeated with different topics for a maximum of six units of credit.

**\*485. Mathematical Programming (3) F James**

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) S Dorn**

Prerequisite: Concurrent enrollment in Education Single Subject 470A,B or Education Single Subject 471A,B 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.

**497. Directed Studies (1-3) F,S 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 repeated to a maximum of three units of credit.

## Graduate Division

**540A. Higher Algebra I (3) F Ali, Beckwith, Sexauer**

Prerequisite: Mathematics 444 (Mathematics 346 is recommended). Groups, rings, fields. Galois fields and related topics.

**540B. Higher Algebra II (3) S Ali, Beckwith, Sexauer**

Prerequisite: Mathematics 540A. Continuation of Mathematics 540A.

**550A. Topology I (3) S Councilman, Eylar, Lu**

Prerequisite: Mathematics 361A. (Mathematics 352 is recommended.) Study by analytic methods of geometric properties that are invariant under bicontinuous transformations.

**550B. Topology II (3) F Councilman, Eylar, Lu**

Prerequisite: Mathematics 550A. Theory of singular homology groups, relative homology groups; simplicial homology; cohomology; applications of the methods of algebraic topology to problems in analysis.

**561A. Real Analysis I (3) S Bachar, Margulies, Schwartz**

Prerequisite: Mathematics 361B. Point set theory, metric spaces, Baire category theorems, measures as set functions, Lebesgue, Baire and Borel measures, Fubini's theorem and Radon's theorem.

**561B. Real Analysis II (3) F Bachar, Margulies, Schwartz**

Prerequisite: Mathematics 561A. Functional analysis including Banach Spaces, Hilbert Spaces,  $L_p$  Spaces. Riesz representation theorem, algebras of continuous functions, measures as linear functionals, Banach algebras and spectral theory.

**562A. Theory of Functions I (3) F Cohen, McCullough**

Prerequisite: Mathematics 361B. (Mathematics 461 is recommended.) Axiomatic development of real and complex numbers; elements of point set theory; differentiation and analytic functions, classical integral theorems; Taylor's series, singularities, Laurent series, calculus of residues.

**562B. Theory of Functions II (3) S Cohen, McCullough**

Prerequisite: Mathematics 562A. Multiple valued functions, Riemann surfaces; analytic continuation; maximum modulus theorem; conformal mapping, with applications, integral functions; Gamma function, zeta function, special functions.

**570. Partial Differential Equations (3) F Lu, McLeod, Margulies**

Prerequisites: Mathematics 361A and B, 364A. Cauchy's problem; classification of second order equations; methods of solution of hyperbolic, parabolic, and elliptic equations.

**575. Calculus of Variations (3) S Lax, McLeod**

Prerequisites: Mathematics 361A, 364A or 370A. Classical theory. Necessary and sufficient conditions for extrema of multiple integrals. Hamilton-Jacobi theory. Applications to eigenvalue problems. Direct methods. Pontryagin maximum principle. Principle of optimality.

**576. Numerical Analysis (3) F Cohen, Lax, Lu**

Prerequisites: Mathematics 323 or equivalent, 361A or equivalent. Advanced numerical methods. Introduction to error analysis, convergence, and stability of numerical algorithms. Topics may include solution of ordinary differential equations, partial differential equations, systems of linear and nonlinear equations, and optimization theory.

**580. Advanced Mathematical Statistics (3) F Cohen, Smoke**

Prerequisite: Mathematics 381. The general decision problem; Neyman-Pearson lemma; uniformly most powerful, unbiased, and similar tests; invariant tests, general linear hypothesis. Principles of sufficiency, and efficiency of estimates, properties of maximum likelihood estimates; variance bounds; confidence regions, tolerance regions. Nonparametric methods.

**590. Theory of Approximation (3) S Cohen**

Prerequisite: Mathematics 361B. Recommended: Mathematics 561A. The approximation problem. Least squares and Chebyshev approximation. Approximation with the  $L_1$  norm. Harmonic analysis. The Weierstrass approximation theorem. Rate of convergence and computational methods.

**695. Seminar in Mathematics (3) F,S Faculty**

Prerequisite: Consent of instructor. Presentation and discussion of advanced work, including original research by faculty and students. Topics to be announced in the *Schedule of Classes*. May be repeated for credit.

**697. Directed Studies (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Research on a specific area in mathematics. Topic for study to be approved and directed by adviser in the mathematics department.

**698. Thesis (2-4) F,S Faculty**

Prerequisite: Completion of at least one 500 and/or 600 level mathematics course. Formal report of research or project in mathematics.

# Mechanical Engineering

## School of Engineering

- Industrial-Management Engineering
- Materials Engineering
- Ocean Engineering

**Department Chair:** Dr. Hillar Unt.

**Emeriti:** Ernest G. Brind, Richard W. Leutwiler, Jr., Herluf P. Nielsen.

**Professors:** Cebeci, deSoto, Dyer, Edelman, Gilpin, Kundis, Kyle, Miller, Potter, Roman, Sungu, Torby, Tsao, Unt.

**Associate Professors:** Mijares, Perez y Perez, Vandermeijden.

**Adjunct Professors:** Dr. Lee S. Akin, Dr. Angelo A. Caputo, Dr. Richard R. Gold, Mr. John E. Marriner, Mr. Thomas Murtaugh.

**Industrial-Management Engineering Coordinator:** Dr. James L. Dyer.

**Materials Engineering Coordinator:** Dr. C. Barclay Gilpin.

**Ocean Engineering Coordinator:** Dr. Leonardo Perez y Perez

**Certificate in Industrial Plastics Processing and Design Director:**  
Dr. Edward Miller.

**Certificate in Energy Conversion and Power Systems Engineering Director:**  
Dr. James L. Dyer.

**Undergraduate Adviser:** Mr. Ernest R. Mijares.

**Graduate Adviser:** Dr. C. Barclay Gilpin.

**Graduate Committee:** Edelman, Gilpin, Roman, Sungu, Tsao.

### Bachelor of Science Degree in Engineering

#### 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 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.

### Bachelor of Science Degree in Engineering

#### 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.

#### **Bachelor of Science Degree in Engineering Ocean Engineering Option**

Administered by the Mechanical Engineering Department, the ocean engineering option 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 Mechanical Engineering**

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 design 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 which contribute scholarships are the Alcoa Foundation, Atlantic Richfield Foundation, Getty Oil Company, Monogram Foundation, Union Oil Company of California Foundation, Shell Companies Foundation and THUMS. Further information is available in the department office.

#### **Master of Science Degree in Mechanical Engineering**

Built on a broad and basic undergraduate instruction, the graduate level courses and the graduate degree master of science in mechanical engineering develop competence in the fields of aeronautics and astronautics, engineering mechanics and design, thermodynamics and fluid flow. Modern laboratories in thermodynamics, heat power, metallurgy, and mechanical properties of materials are maintained for undergraduate and graduate instruction, and graduate research. Design rooms, excellent laboratories within the other engineering departments, analog and digital computer facilities, and good machine shops supplement the mechanical engineering facilities.

Additional details may be found in the *Schedule of Classes*. For further information and complete degree requirements contact the Chair, Mechanical Engineering Department.

Some graduate laboratory and teaching assistantships are available to qualified graduate students. Applications should be sent to the department office.

#### **Bachelor of Science Degree in Engineering**

##### **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; Physics 153 or Chemistry 111B 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 a minimum of 132 units.

#### **Bachelor of Science Degree in Engineering**

##### **Industrial-Management Engineering Option (code 3-4342)**

*Lower Division:* M.E. 101, 172, 205, 222; C.E. 205; E.E. 210, 210L; Mathematics 122, 123, 224; Accounting 201; Finance 222; Chemistry 111A; Physics 151, 152; M.E. 221 or Physics 153 or Chemistry 111B.

*Upper Division:* M.E. 305, 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 413; and approved electives to total a minimum of 132 units.

#### **Bachelor of Science Degree in Engineering**

##### **Ocean Engineering Option (code 3-4358)**

*Lower Division:* M.E. 101 or C.E. 101; C.E. 205; M.E. 172, 265; E.E. 210, 210L; Mathematics 122, 123, 224; Chemistry 111A; Physics 151, 152; Physics 153 or Chemistry 111B or M.E. 221; M.E. 205 or E.E. 140 or C.E. 206.

*Upper Division:* Mathematics 370A; Geology 465; C.E. 335, 336, 406; E.E. 310, 370, 370L, 425; M.E. 305 or E.E. 241, 341 or C.E. 306; M.E. 330, 331, 365, 366, 371, 373, 374, 426, 463, 465L; Economics 300; approved electives to total a minimum of 132 units.

#### **Bachelor of Science Degree in Mechanical Engineering (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; Physics 153 or Chemistry 111B or M.E. 221.

*Upper Division:* M.E. 305, 322, 323, 330, 331, 336, 337, 371, 373, 374, 375, 431, 459, 471, 472; C.E. 335, 336, 406; E.E. 310, 370, 370L; Mathematics 370A; Economics 300; approved electives to total a minimum of 132 units one of which must be a mechanical engineering lecture-laboratory or design-laboratory course.

#### **Certificate in Industrial Plastics Processing and Design**

**Director:** Dr. Edward Miller.

**Professors:** Dyer, Edelman, Gilpin, Miller, Unt.

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.

#### **Certificate Program in Energy Conversion and Power Systems Engineering**

**Director:** Dr. James L. Dyer.

**Professors:** deSoto, Dyer, Jordanides, Sungu, Unt.

**Associate Professor:** Mijares.

The 27-unit Certificate Program in Energy Conversion and Power Systems Engineering is an undergraduate program designed to prepare electrical and mechanical engineering students to become proficient in the analysis and design of power generating systems, such as direct conversion, coal burning, hydraulic, nuclear, solar, wind and various other types of power plants.

**Requirements for the Certificate:**

1. Consultation with program advisers in Electrical or Mechanical Engineering Departments.
2. Completion of the following core courses: Civil Engineering 335, Electrical Engineering 350, 452; Mechanical Engineering 330, 431.
3. Completion of 12 units from the following list of elective courses: Electrical Engineering 453; Mechanical Engineering 405, 410, 411, 412, 432, 438.
4. Completion of a bachelor's degree. The certificate may be awarded concurrently with the degree.

**Master of Science Degree in Mechanical Engineering (code 6-4350)****Prerequisites**

1. A bachelor's degree in an accredited curriculum in mechanical engineering, or:
2. A bachelor's degree in engineering, a natural science or other appropriate discipline with the requirement that essential undergraduate prerequisites in mechanical engineering be satisfied.
3. Graduate students must consult with the graduate adviser for information concerning procedures and requirements for appropriate approval of their courses of study prior to enrolling in their graduate programs.

**Advancement to Candidacy**

1. Removal of all undergraduate deficiencies as determined by the Department Graduate Study Committee.
2. Students may, at the discretion of the Department Graduate Study Committee, be required to take examinations in their chosen areas.

**Requirements for the Master of Science**

1. Completion of a minimum of 30 units beyond the bachelor's degree in upper division and graduate courses approved by the student's Department Graduate Study Committee including:
  - a. A minimum of 21 units in engineering or mathematics courses with 15 units of 500 and/or 600 level courses in mechanical engineering.
  - b. Nine units of electives selected from approved upper division or graduate courses from appropriate areas.
  - c. A thesis or project or comprehensive examination. Students taking the comprehensive examination must complete a minimum of three units of M.E. 697 prior to the examination.

**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-discussion 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.)

**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. Combustion, products, pollutants. (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.)

**265. Engineering in an Ocean Environment F, S Perez y Perez, Faculty**

Prerequisites: Mathematics 224 and Physics 151. Study of problems involved in engineering ventures in, on and under the ocean. Environmental considerations and engineering contributions to development and use of ocean resources. (Lecture-discussion 3 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 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 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. 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. Power Plant Design (3) F,S Faculty**

Prerequisites: M.E. 330, 331. Design of power production systems, including steam power plants, gas turbines and auxiliary power units. Survey of alternate power sources including wind, solar, geothermal, ocean thermal and biomass. (Lecture-design 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.)

**365. Ocean Engineering I (3) F Perez y Perez**

Prerequisite: M.E. 265. 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 Perez y Perez**

Prerequisite: M.E. 365. 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.)

**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. 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 or consent of instructor. 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) F,S Unt, 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. Solar Engineering (3) F Sungu**

Prerequisite: M.E. 330. Origin, nature and availability of solar energy. Review of the fundamentals of radiation heat transfer. Solar energy thermal processes. Radiation characteristics of opaque materials. Flat-plate collectors. Focusing collectors. Energy storage-solar energy applications. Design of: (1) solar water heating systems, (2) solar heating and cooling systems, (3) solar power generation systems. (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) S 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 Materials (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. Problems relating to metals, plastics and ceramics. (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 polymers. (Lecture-problems 3 hours.)

**\*425. Chemical and Electrochemical Manufacturing Processing (3) F 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. Metals and Plastics Manufacturing Processes (3) S Faculty**

Prerequisite: M.E. 322. Elementary theory of metal forming and plastics processing. Includes metal forging and rolling, metal and plastics extrusion, plastics injection molding, casting. Discussion of appropriate manufacturing methods. (Lecture-problems 3 hours.)

**\*431. Heat Transfer Systems Design (3) F, S deSoto**

Prerequisites: M.E. 305, 330, C.E. 335, Mathematics 370A. Analysis of heat transfer by conduction, convection and radiation. Investigation of steady state and transient heat transfer systems. Computer methods. Design of heat exchangers and other heat transmission devices. (Lecture-problems 2 hours, laboratory 3 hours.)

**\*432. Fluid Machinery (3) F 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. Intermediate Thermodynamics (3) S Dyer**

Prerequisite: M.E. 330. Gas processes; relation of entropy to second law; gas cycles, vapor cycles; mixtures of gases and vapors. Introduction to statistical thermodynamics. (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 Faculty**

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**

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.)

**463. Principles of Naval Architecture I (3) F Perez y Perez**

Prerequisites: C.E. 335, 336 and M.E. 371. 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) S Faculty**

Prerequisite: M.E. 463. Fundamentals of the resistance and propulsion of ships, including theory of model testing. Theory and practice of propeller design. Fundamentals of ship maneuvering and control behavior of ships in waves. (Lecture-problems 3 hours.)

**465. Ocean Engineering Laboratory (1) F 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) S Faculty**

Prerequisite: M.E. 465. 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) F Faculty**

Prerequisite: M.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.)

**469. Ocean Structures (3) S Faculty**

Prerequisites: M.E. 373 and C.E. 335 or consent of instructor. Introduction to hydrodynamic forces due to wave excitation; random process and ocean wave spectrum concepts; ocean structure response prediction by response amplitude operator techniques. (Lecture-problems 3 hours.)

**471. Analysis and Design of Machine Components (3) F,S Mijares**

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; 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, design application 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. Advanced Dynamics (3) F Mijares, Torby**

Prerequisites: M.E. 371, Mathematics 370A. Detailed study of particle and rigid body mechanics. Three dimensional analysis, Lagrange's equations and variational principles. Vibrating systems, planetary and satellite motions, variable mass problems, Euler's equations and gyromechanics. 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 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 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) S Roman**

Prerequisites: M.E. 401, 402 or equivalent. Solution of engineering problems by methods of asymptotic expansions; variational calculus and integral transforms. Selected topics of advanced analytical methods in engineering including partial differential equations, integral equations, distribution theory and nondeterministic mathematics. (Lecture-problems 3 hours.)

**521. Advanced Materials Engineering (3) F Miller**

Prerequisite: M.E. 427 or consent of instructor. Imperfection in metals, dislocation theories of strength of metals, cold working, preferred orientation and texture due to deformation and recrystallization, transformation. (Lecture-problems 3 hours.)

**522. Fracture of Engineering Materials (3) S Faculty**

Prerequisite: M.E. 427 or 477 or consent of instructor. Mechanics of fracture, fracture toughness in brittle and ductile materials, macroscopic and microscopic aspects of crack propagation, stress corrosion cracking, hydrogen embrittlement, fatigue, creep, rupture and designing for fracture resistance. (Lecture-problems 3 hours.)

**531. Heat and Mass Transfer (3) F Cebeci**

Prerequisites: M.E. 431, 437, 533. Transport properties of fluids and solids. Development of equations of mass, heat and momentum transfer. Transport processes in laminar and turbulent fluid flows. Free and forced convection. Introduction to radiative heat transfer. (Lecture-problems 3 hours.)

**532. Mechanics of Ideal Fluids (3) F Kyle**

Prerequisite: M.E. 437 or consent of instructor. Fundamental equation of continuity. Characteristics of flow patterns. Kinematics of flow. Forces on fluid elements. Equations of motions. Equations of energy and momentum. Potential theory. Vector concepts. Two-dimensional motion. Source, sink, doublets, circulation. Complex variables in fluid flow problems. Moving cylinders. Theorem of Schwarz and Christoffel; Helmholtz motions. Cavitation. Drag. (Lecture-problems 3 hours.)

**533. Mechanics of Real Fluids (3) S Cebeci**

Prerequisite: M.E. 437 or consent of instructor. Fluid motion with friction. Boundary layer concept. Derivation of the equations of motion of a compressible viscous fluid (Navier-Stokes equations). General properties of the Navier-Stokes equations. Boundary layer equations for two-dimensional flow. Exact solutions of the steady-state boundary layer equations. Turbulent flow. (Lecture-problems 3 hours.)

**536. Analytical Thermodynamics (3) F Dyer**

Prerequisite: M.E. 336. General treatment of the thermodynamic laws. Kinetic theory and equations of states. First law. Fundamentals of classical and statistical mechanics as applied to thermodynamics. Second law. Reversibility, irreversibility, entropy. Reactive mixtures. Chemical equilibrium. Statistical thermodynamics. Partition functions. (Lecture-problems 3 hours.)

**537. Gas Dynamics (3) S Roman**

Prerequisites: M.E. 439, 532 or consent of instructor. Related thermodynamics. One-dimensional steady flow, wave and shock motion in unsteady one-dimensional and steady two-dimensional flows. Small perturbation theory for wings and bodies. The influence of viscosity. Survey of experimental techniques; analogies. (Lecture-problems 3 hours.)

**541. Advanced Aerodynamics of Vehicles and Structures (3) S Faculty**

Prerequisite: M.E. 441. Detailed analysis of applications introduced in Mechanical Engineering 441. Selected topics such as computational

aerodynamics, compressible and supersonic flow and aerodynamics noise. (Lecture 3 hours.)

**543. Advanced Aircraft and Missile Structures (3) S Faculty**

Prerequisite: M.E. 446 or 477 or consent of instructor. Theory and methods of strength analysis and design of modern airplane, missile and spacecraft components. A review of elasticity relations and practical two-dimensional plasticity. Properties and failure modes, including fatigue and elevated temperature effects. Simple shells and stiffened skin structures. (Lecture-problems 3 hours.)

**544. Biomedical Applications in Mechanical Engineering (3) S Faculty**

Prerequisite: Graduate standing in engineering. Techniques, applications and research findings, with emphasis on human capabilities and limitations in the design and use of man-machine systems. (Lecture-problems 3 hours.)

**571. Random and Nonlinear Vibrations (3) S Unt**

Prerequisite: M.E. 476. Characterization and transmission of random vibration; failure due to random vibration. Classification of nonlinear problems: exact, graphical and approximate solutions, singular points, stability. (Lecture-problems 3 hours.)

**572. Stress Analysis in Design (3) S Tsao**

Prerequisite: M.E. 477. Application of the basic equations of elasticity to experimental methods of stress analysis with applications to modern design problems. Measurement of stresses and deformations that are of significance in the engineering design of load resisting members. Two-dimensional photoelastic applications. Static and dynamic applications of photostress. (Lecture-problems 3 hours.)

**573. Theory of Elasticity (3) F Tsao**

Prerequisite: M.E. 477. Fundamental equations of the mechanics of elastic bodies. Plane problem. Bending, torsion and extension of Prismatic Bodies. Three-dimensional problem. Propagation of waves in elastic media. Approximate methods. Introduction to theory of plasticity. (Lecture-problems 3 hours.)

**574. Advanced Design in Mechanical Engineering (3) S Edelman**

Prerequisite: M.E. 472. Definition, design conception, functional optimization and solution of advanced mechanical engineering problems. (Lecture-discussion 3 hours.)

**576. Engineering Vibrations II (3) F Unt**

Prerequisite: M.E. 476. Theory of mechanical vibrations. Linear systems and self-excited vibrations. Methods of Newton, Lagrange, Stodola and Rayleigh-Ritz applied to distributed and complex lumped systems. Practical approximate methods of analysis. (Lecture-problems 3 hours.)

**577. Creep and Fatigue (3) F Faculty**

Prerequisites: M.E. 322, 373, or consent of instructor. Phenomena of creep and fatigue; effect on stress distribution in structural elements; buckling caused by creep; effects of space environment on fatigue; cumulative fatigue damage at normal and elevated temperatures. (Lecture-problems 3 hours.)

**691. Directed Studies (1-3) F,S Unt, Faculty**

Study of information in engineering and scientific literature on a current topic under the direction of a faculty member. Preparation of a written report based on this reading.

**695. Seminar in Mechanical Engineering (3) F,S Faculty**

Prerequisite: Consent of instructor. Presentation of research in special fields: (a) engineering mechanics (b) heat transfer and thermodynamics (c) fluid mechanics (d) aeronautics and astronautics. May be taken in different areas for a maximum of six units of credit.

**697. Directed Research (1-3) F,S Unt, Faculty**

Prerequisite: Graduate standing in mechanical engineering. Theoretical and experimental problems in mechanical engineering requiring extensive analysis.

**698. Thesis (2-6) F,S Unt, Faculty**

Planning, preparation, and completion of a thesis in mechanical engineering.



# Medieval and Renaissance Studies

**Director:** Dr. J. Charles Jernigan (Comparative Literature).

**Professors:** Abou-El-Haj (History), Abrahamse (History), Axelrad (English), Bell (English), Boutelle (History), Crane (English), Gosselin (History), Knafel (English), Lipski (History, Religious Studies), McKay (German, Russian, Classics), Peccorini (Philosophy), Rayner (Music).

**Associate Professors:** Bartenbach (German, Russian, Classics), Eisenman (Religious Studies), Guerriere (Philosophy), Jernigan (Comparative Literature), Kessler (French-Italian), Martel (Art), Scott (Political Science).

**Assistant Professors:** Battaglia (Religious Studies), Forney (Music), Greer (Art).

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 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 HOB-513, 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.
- 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.
  - 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†.
  - 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

**Director:** Raymond McKay (German, Russian & Classics).

**Emeritus:** Graham K. Spring (German, Russian, Classics).

**Professors:** Abrahamse (History), Guerriere (Philosophy), Hood (History), Hubble (Comparative Literature), Markman (Comparative Literature), McKay (German, Russian & Classics), Trombetas (Political Science).

**Associate Professors:** Jernigan (Comparative Literature), Plourde (English), Spangler (Philosophy).

**Assistant Professor:** Greer (Art).

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. Interested students should apply to the Director, Professor Raymond McKay (HOB-813), or to members of the supporting faculty for further information.

### *Requirements for the Certificate in Mediterranean Studies:*

Twenty-three semester units are required for a certificate, which normally may be completed in two years.

- A bachelor's degree with a traditional major. (Certificate requirements may be completed prior to completion of the B.A.)
- A minimum of two semesters of *either* Greek 221-222 *or* Latin 221-222.
- 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, 351, 352, 490†, 499†.
- B. Latin 331, 332, 351, 352, 490†, 499†.
- C. History 313, 314, 318A, 490†, 495†.
- D. Philosophy 203, 421, 422, 491.
- E. Art 310, Classics 360, 370, Comparative Literature 421 (same course as Theatre Arts 421), 452†, 499†, English 431, 499†, Political Science 415.

# Mexican American Studies

## School of Social and Behavioral Sciences

**Department Chair:** Dr. Genevieve M. Ramirez.

**Associate Professors:** Hidalgo, Osuna, Ramirez, Sanchez.

**Assistant Professor:** Lopez.

**Undergraduate Adviser:** Dr. Genevieve M. Ramirez.

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; one course 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; *Group II (Social Science)*—Mexican American Studies 300, 304, 310, 350, 360, 375, 380, 400, 415, 443, 480; *Group III (Education)*—Mexican American Studies 340, 442, 443, 444, 445 and three elective units from any group of Mexican American Studies 499 or 490.

**Social and Behavioral Sciences Requirement:** The student will select six units of coursework in the Social and Behavioral Sciences from the options listed below, according to the area of concentration selected within the major. These courses shall be in addition to courses selected to fulfill the requirements of any General Education Category. *Group I (Humanities):* American Indian Studies 340, Asian American Studies 380, Black Studies 340, Sociology 485, Women's Studies 410; *Group II (Social Sciences):* American Indian Studies 312, Anthropology 323, Asian American Studies 345, Black Studies 400, Economics 444, History 364, Geography 470, Political Science 359, Sociology 445, Social Work 370, Urban

† If applicable and approved by student's adviser.



Studies 493, Women's Studies 401, *Group III (Education)*; American Indian Studies 337, Asian American Studies 310, Anthropology 467, Black Studies 420.

**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; *Group II (Social Science)*—Mexican American Studies 300, 304, 310, 350, 360, 375, 380, 400, 415, 443, 480; *Group III (Education)*—Mexican American Studies 340, 442, 443, 444, 445; and three elective units from any group of Mexican American Studies 490 or 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; *Group II (Social Science)*—Mexican American Studies 300, 304, 310, 350, 360, 375, 380, 400, 443, 480; *Group III (Education)*—Mexican American Studies 340, 442, 443, 444, 445; and three elective units from any group of Mexican American Studies 490 or 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) F, S 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) F, S 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.

##### 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) 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 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) 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 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.

**415. La Chicana (3) S Nieto, Faculty**

This course is designed to survey the historical and sociological impact of the Chicana feminist movement on the Chicano community. Class work will include the analysis of the unique factors of Chicana feminism as compared to the national and international women's movements.

**420. Chicano Heritage in the Arts of Mexico and the Southwest (3) 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 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 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.

**453. Chicano Folk Psychology and Mental Health (3) S Johnson**

Prerequisite: Consent of instructor. Comprehensive look at the socio-psychological folk mental health techniques of Mexican Americans in the barrio. Historical and theoretical foundations of curanderismo, its presuppositions, basic concepts and categories of illness. Field work will be required.

**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.

# Microbiology

## School of Natural Sciences

**Department Chair:** Dr. Frank E. Swatek.

**Professors:** Anselmo, Carlberg, Fung, Kazan, Kim, Raj, Russell, Swatek.

**Assistant Professors:** Geesey, Inderlied, Itatani, Kingsford.

**Undergraduate Adviser:** Dr. Frank E. Swatek.

**M.S. Graduate Adviser:** Dr. David Carlberg.

**M.P.H. Graduate Adviser:** Dr. Betty Kazan.

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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 programs have basic courses in common. A program desired in any of the four can be arranged through counseling by advisers in the department.

The master of science degree is available to qualified students preparing for professional careers in the fields of the paramedical sciences, industry, government and teaching or preparing for further studies at the doctoral level. A special emphasis is available for those students seeking to fulfill the requirements of the bioanalyst. Students must qualify physically as well as academically to participate in this degree program. Inquiries concerning the graduate program in microbiology should be directed to the department graduate adviser.

Requests for application forms for graduate admission in the department should be directed to the department graduate adviser. Preference will be given to applicants filing applications before March 15 for the fall semester and before October 15 for the spring semester. All applicants are urged to submit their applications, transcripts and three letters of recommendation to the graduate adviser before the above dates.

Teaching assistantships and graduate assistantships are available to qualified individuals within the resources of the department. Requests for application forms should be directed to the graduate adviser.



**Major in Microbiology for the Bachelor of Science Degree****General Microbiology Option (code 3-7654)**

*Lower Division:* Chemistry 111A-B, 251; 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.

**Medical Microbiology Option (Laboratory Technology) (code 3-7655)**

*Lower Division:* Chemistry 111A-B, 251; 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; and 448M, 447; or 441A-B, 447; 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.

**Concurrent and/or Summer Enrollment in Another College**

Students who wish to take course work in a community or another college to meet curricular requirements while enrolled as undergraduates in the School of Natural Sciences 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" and "Transfer of Undergraduate Credit" in this *Bulletin*. Courses not receiving prior approval will not be accepted for credit by the department.

**Master of Science Degree with a Major in Microbiology (code 6-7654)****Prerequisites**

1. A bachelor's degree with a major in microbiology from this University with a GPA of 3.0 or better, or;
2. A bachelor's degree with a major in microbiology, bacteriology or related fields from an accredited institution, with a GPA of 3.0 or better on the condition of completing deficiencies, if any, in the upper division course work as required of a microbiology major at this University as described in no. 3, or;

† Clinical Laboratory Technology, Public Health Microbiology.

‡ Subject credit waived by the department for a student with 6 or more units in English composition and who demonstrates high proficiency in grammar as shown by an English Proficiency Test.

3. A bachelor's degree in any academic area from an accredited institution with an undergraduate overall grade point average of 3.0 or better, on the condition of completing a minimum of 24 units of upper division courses in microbiology or related fields before starting the full graduate program. These courses must be comparable to those required of a major in microbiology at this University, and should include but not be limited to, medical bacteriology, immunology and serology, organic chemistry and biochemistry (two semesters). A course in general microbiology if taken as an upper division course may apply towards the 24 units. Deficiency units will not apply to the graduate program, or;
4. A student whose overall undergraduate GPA is less than 3.0, but who shows promise in all other respects, may be given a special consideration for admission.

Following admission to the University and tentative acceptance by the department, each student will be interviewed by the Department Graduate Committee or the graduate adviser to formalize the acceptance by the department, determine the student's overall caliber for graduate studies, evaluate transcript records to detect any scholastic deficiencies and counsel in the chosen discipline. A qualified student is thus admitted to the graduate degree curriculum in microbiology with conditionally classified graduate standing.

**Advancement to Candidacy**

The sequential steps leading to the advancement to candidacy are:

1. The completion of all scholastic deficiencies, if any, satisfactorily by maintaining a 3.0 GPA.
2. As soon as possible each graduate student will choose a thesis adviser who will establish the student's Thesis Committee of at least three members (thesis adviser and at least one other member of this department) with expertise specific to the student's chosen and related field of interest in microbiology.
3. The Thesis Committee will formulate the student's graduate degree program (a minimum of 30 units) and forward it to the Dean of Graduate Studies for final approval. This should be done at least one year before graduation.
4. Upon evidence satisfactory progress and completion of a comprehensive written examination, the Thesis Committee may recommend the student to the Dean of Graduate Studies for advancement to candidacy. This should take place at least one semester before graduation. Upon approval by the Dean, the student has officially attained classified graduate standing.

**Requirements for the Master of Science**

1. A minimum of 30 units of upper division and graduate courses of which a minimum of 20 units must be in the Microbiology 500-600 series courses. All students must complete Microbiology 450, 471, 694A,B and 697; other courses in related subject matter must be approved by the candidate's Thesis Committee.
2. A reading knowledge of German, French or other foreign language may be required, depending upon the candidate's program of study as recommended by the candidate's Thesis Committee.
3. Thesis, Microbiology 696.
4. Final oral examination—A final comprehensive oral examination including the defense of the thesis will be administered by each candidate's Thesis Committee. It will be open to all faculty and to the public.

**Master of Public Health****General Information**

The master of public health degree is designed for professionals who have already had experience within a health-related field. It is designed to be completed in 12 months of full-time study. There is a core curriculum and two options. Field

experience and a comprehensive examination, rather than a thesis, are required. The program has few elective courses.

#### Medical Laboratory Supervisor Option (code 7-7657)

This option provides advanced instruction necessary for laboratory personnel to advance to senior laboratory and supervisory positions.

#### Nurse Epidemiologist Option (code 7-7656)

This option provides advanced instruction for bachelor degree nurses who wish to be practicing epidemiologists in hospital and related environments.

#### Prerequisites

Criteria for admission to the program are: (1) a bachelor's degree in nursing for nurse epidemiology option; and a bachelor's degree in biological science with medical laboratory emphasis for medical laboratory supervisor option; (2) minimum GPA of 2.5 overall; (3) three letters of recommendation; and (4) two years of professional experience.

#### Advancement to Candidacy

1. Upon acceptance of the Microbiology Department, a committee will be established for each student specific to her/his chosen and related fields of interest.
2. After completion of all prerequisites, the committee will recommend the advancement to candidacy of the qualifying student.

#### Requirements for the Master of Public Health

1. Completion of 30 units of approved course work, of which at least 15 must be in 500 and 600 level courses.
2. Satisfactory performance in the field experience.
3. A final comprehensive examination after course work and field experience are completed.

All students must take the following core curriculum: A three-unit management course approved by the candidate's committee, Biology 562, Electrical Engineering 407, Microbiology 361, Physical Therapy 374.

For Option I, Medical Laboratory Supervisor, the following courses are required: Microbiology 526, 546, 691, 696.

For Option II, Nurse Epidemiologist, the following courses are required: Microbiology 425, 427, 691, 696.

For both degree options a student who wishes to demonstrate prior competence by examination and/or course work in either a core or option requirement may be permitted to substitute a course(s) in the same or a related area with the approval of both the student's faculty adviser and an instructor of the specific course(s) in which the student seeks to demonstrate her/his prior competence. Elective courses for the two options may be selected from upper division or graduate courses in microbiology, biology, chemistry, psychology or business administration, in consultation with the faculty adviser and the advisory committee, to complete the total of 30 units required for the degree.

#### 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 or equivalents. Introduction to micro-organisms, their morphology, metabolism and cultural characteristics. (Lecture 2 hours, laboratory 6 hours.)

##### 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 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

Prerequisite: Nursing 250 or admission to R.N. program. Introduction to the pathological processes in man, including host-parasite relationships, cellular changes, inflammation, 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 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 Geesey**

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 Kingsford**

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 Kingsford**

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) S Faculty**

Prerequisite: Graduate standing in microbiology. Systematic survey of the historical developments in microbiology and men concerned with its development from past to present time. (2 hours weekly.)

**514. Microbiological Instrumental Methods and Analysis (3) S Carlberg**

Prerequisites: Microbiology 471, Chemistry 441A. Theory and application of instrumental methods in microbiological problems. (Lecture 1 hour, laboratory 6 hours.)

**526. Biochemical Diagnostic Procedures in Microbiology (3) F Faculty**

Prerequisites: Microbiology 330, Chemistry 441A-B, 447. Medical laboratory experience is recommended. Theory and application of diagnostic procedures for the clinical microbiology research laboratories. (Lecture 1 hour, laboratory 6 hours.)



**546. Clinical Diagnosis by Laboratory Methods and Quality Control (4) S Faculty**

Prerequisite: California Clinical Laboratory Technologist licensed or equivalent with consent of instructor. Correlation of laboratory tests in relationship to alterations in normal physiology. Results of laboratory measurement of pathologies of the cardiovascular, gastrointestinal, renal and endocrine systems will be interpreted in relationship to laboratory evaluation of these diseases. This course does not study techniques of laboratory tests. Students must already be familiar with the methods of performing general laboratory tests.

**550. Experimental Microbiology**

Detailed study of selected topics in microbiology, with emphasis on laboratory approaches to the problem. (A) Microbial Ecology, (B) Immuno-chemistry, (C) Microbial Metabolism, (D) Eumycetes, (F) Medical Parasites, (G) Schizomycetes, (H) Viruses. May be repeated for credit with different topics. (Lecture 1 hour, laboratory 6 hours.)

**A. Microbial Ecology (3) S Faculty**

Prerequisites: Microbiology 320, 461. Microbial populations as they naturally occur and their interactions. Not open to students with credit in Microbiology 542.

**B. Immunochemistry (3) S Faculty**

Prerequisite: Microbiology 431. The chemical bases of the immune response as well as the use of precise, sensitive and specific immunochemical methods for the characterization and study of various biological processes and materials. Not open to students with credit in Microbiology 532.

**C. Microbial Metabolism (3) F Raj**

Prerequisites: Microbiology 471, Chemistry 441B (may be taken concurrently), consent of instructor. Advanced concepts of microbial physiology with emphasis on their chemical activities and metabolic pathways. Not open to students with credit in Microbiology 575.

**D. Eumycetes (3) F Faculty**

Prerequisites: Microbiology 360 or 461 and 471. Detailed study of the yeasts and fungi with special emphasis on their biochemical life processes. Single sport slide culture and hyphal fusion techniques will be utilized to investigate the physiological state of both the haploid and diploid stages. Effects of the physical and chemical environment on growth, reproduction and biosynthesis of metabolites. Not open to students with credit in Microbiology 562.

**F. Medical Parasites (3) S Kazan**

Prerequisites: Microbiology 322, 330; Biology 314. Medical protozoa, Helminthes; special emphasis on cultural procedures and special cytological staining techniques. Not open to students with credit in Microbiology 527.

**G. Schizomycetes (3) S Faculty**

Prerequisite: Microbiology 471. Detailed study of the bacteria; special emphasis on the heterotrophic and the autotrophic forms. Not open to students with credit in Microbiology 574.

**H. Viruses (3) F Faculty**

Prerequisites: Microbiology 320, 453, 471, consent of instructor. Detailed study of virus elemental particles; special emphasis on the physical and chemical structure of virus particles. Tissue culture, chick embryo cytopathological techniques and special biochemical procedures are studied as they relate to viruses. Not open to students with credit in Microbiology 554.

**691. Supervised Independent Study (1-4) F,S Faculty**

Advanced independent study in the field of the candidate's option for the master of public health degree. The subject of the study may be different from the field training in the option.

**694A,B. Seminar in Principles and Theories of Microbiology (1,1) F,S Faculty**

Prerequisite: Graduate standing in microbiology. Presentation and discussion of advanced work in special fields including original research of faculty and graduate students. (Weekly meetings.)

**695. Seminar in Immunogenetics (2) S seven years Carlberg, Fung**

Prerequisites: Microbiology 330, 450; Microbiology 431 and Biology 370 are recommended. Discussions and critical evaluations of selected topics from current literature in the field of immunogenetics. Graduate student and faculty participation. (2 hours weekly.)

**696. Field Experience in Medical Laboratory Supervision (2-4) S Faculty**

Field experience in hospitals and other health-related facilities is required for all candidates for the master of public health degree.

**697. Directed Research (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Laboratory work supervised on an individual basis.

**698. Thesis (1-6) F,S Faculty**

Prerequisite: Consent of instructor. Original research in microbiology carried out under supervision of the faculty on an approved topic of mutual interest and the formal report of this research.

# Military Science

## Air Force ROTC

The Air Force offers two and four-year Air Force Reserve Officers Training Corps programs on the California State University, Long Beach campus. 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 January 15 in the academic year prior to entering college in the 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 Dr. Irvin Lathrop, Office of Extended Education (213) 498-5561, or Dr. Gene Simonson, Economics Department, (213) 498-5081, both at CSULB or the Department of Aerospace Studies, Loyola Marymount University, Los Angeles, California 90045, phone (213) 642-2770.

## General Information

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 or female 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 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 (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. 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:

**AS100 (Freshman year). 1 hour academic credit.**

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 semester.)

**AS200 (Sophomore year). 1 hour academic credit.**

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 semester.)

**AS300 (Junior year). 3 hours academic credit.**

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 semester.)

**AS400 (Senior year). 3 hours academic credit.**

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 semester.)

**Supplemental Course Program**

The AFROTC Supplemental Course Program requires each student complete one semester of college-level course work in the following areas: mathematics, English composition and a foreign language. All students are encouraged to complete a speech class.

**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 \$350.00.

**Army ROTC**

The Army Reserve Officers Training Corps (AROTC) program is available to California State University, Long Beach students through the Extended Education Office of CSULB. All classes are conducted on campus with the Army ROTC office located in Psychology 433 or call 597-1853 or 831-7463.

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 once a week. 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 up to \$1000 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 and travel expenses.

The three-year program enables a student with three academic years remaining in college to accelerate a four-year program by taking two military science 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 April 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.

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 regardless of whether they are enrolled in Army ROTC or not. Students cross enrolled while attending other institutions are also eligible.

**Military Science Curriculum****MS I (First Year)**

**X101.** The U.S. Defense Establishment I

**X102.** The U.S. Defense Establishment II

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)**

**X201.** U.S. Military History

**X202.** 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)**

**X301.** The Psychology of Leadership (with Military Applications)

**X302.** Theory of Learning Applied to Teaching (with Military Applications)

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)**

**X401.** Decision-Making and Society (with Military Applications)



**X402. Military Legal System and 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.

For additional information contact the Military Science program, CSULB, Psychology Building, Room 433, phone 597-1853 or 831-7463.

# Music

## School of Fine Arts

**Department Chair:** Dr. David L. Kuehn.

**Emeriti:** Gerald R. Daniel, Nadyne C. Gibson, Sanford M. Helm, Russel N. Squire, Gerald Strang, W. Paul Stroud, Henri Temianka, Robert W. Winslow.

**Professors:** Anderson, Becker, Curtis, Dallin, Kovalenko, Lampl, Milley, Musafia, Pooler, Rayner, Roskam, Schwartz, Sindelar, Tyndall.

**Associate Professors:** Andrus, Matthews, Prince, Wilson.

**Assistant Professor:** Forney.

**Undergraduate Advisers:**

**Bachelor of Arts:** Dr. David Kuehn.

**Commercial:** Mr. John Prince.

**Composition:** Dr. Justus Matthews.

**Credential:** Dr. Robert Anderson.

**History and Literature:** Dr. Kristine Forney.

**Performance:** Dr. David Kuehn.

**Therapy:** Dr. Kay Roskam.

**Music Minor:** Dr. David Kuehn.

**Graduate Adviser:** Dr. Justus Matthews

**General Information**

The undergraduate 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 theory placement test and performance auditions which are regularly administered in May and December and are also available at the beginning of registration week each semester. Each entering student should inquire at the Music Office for dates and details. In addition, new students are required to meet with an adviser prior to registration.

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 must meet keyboard proficiency requirements (equivalent to Music 220B) regardless of the performance area. A list of proficiency requirements may be obtained in the Music Office.

Participation in one of the principal performance organizations (Music 100/300) is required of each music major each semester.

Undergraduates carrying more than six units are required to participate in Music 020 every semester except the semester of the senior project.

A satisfactory senior project is a prerequisite to graduation.

The Department of Music holds membership in the National Association of Schools of Music. The bachelor of music, bachelor of arts and master of arts

degrees in music are accredited by the association.

The Department of Music offers graduate study leading to the master of arts degree. The candidate should arrange through the department office for counseling with the graduate adviser. Special placement examinations or auditions are required to validate qualifications for graduate work in music.

All general requirements of the University must be met in addition to departmental requirements listed below.

#### **Major in Music for the Bachelor of Arts Degree (code 2-5820)**

*Lower Division:* Music 020 (every semester), 100 (every semester), 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 (every semester), 341, 342, 360, 429 (every semester), 423.

#### **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 should 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); music theory (Music 141A-B, 142A-B, 241, 341, 342); music performance (Music 100, 300 - one unit each semester in residence); keyboard proficiency (equivalent to Music 220B); semester recital (Music 020 - each semester in residence); senior project (Music 423).

#### **Choral-Vocal Music Option (code 4-5821)**

(This option is intended for single subject teaching credential candidates.) Music 429 or X429 (must be taken each semester in residence); voice proficiency (equivalent to Music 222B); Music 320 or 322, 327, 328, 421, 422, 465, 483A-B; Music 125/325, 1 unit in each family of instruments (may be waived in whole or part upon passage of proficiency exam).

#### **Composition Option (code 4-5822)**

Required: performance level of junior on major performance medium, Music 200 or 400 New Music Ensemble (must be taken twice), 441, 442, 444, 445 (may be taken three times), 446; six units to be selected from Music 422, 425B, 443, 491, 499. One course from Music 393, 460, 461, 462, 463, 464, 465, and 469.

#### **History and Literature Option (code 4-5824)**

Required: performance level of junior on major performance medium, 3 units of library resources and research elected as Music 499 by advisement. Elect 18 units from Music 393, 460 (may be taken twice), 461, 462, 463, 464, 465, 469; Music 400 (Collegium Musicum—must be taken three times). Recommended courses outside music: English 101, foreign language (preferably German) equivalent of 201A, history, art history, theatre history.

#### **Instrumental Music Option (code 4-5826)**

(This option is intended for single subject teaching credential candidates.) Music 429 or X429 (must be taken each semester in residence); Music 425A-B, 442, 465, 480, 481, 482A-B, 485; 10 units of Music 125/325 or proficiencies to include brass, woodwinds, strings and percussion.

#### **Performance Option (code 4-5828)**

Individual instruction (Music 429 or X429) required each semester in residence with an achievement of senior level on major performance medium. Music 335 may be substituted for this requirement in certain concentrations when offered and

advised by the department. Junior project (Music 323) required of all students during their junior year.

Piano: Music 200/400 (4 units); Music 321, 326A-B, 431A-B, 433, 460 or 461; Music 335 (8 units in lieu of 429 or X429 when available).

Organ: Music 421, 424A-B, 442, 444, 460 or 461, 484.

String Instruments: Music 200/400 (4 units); Music 425A-B, 460, 464; Music 335 (8 units in lieu of Music 429 or X429 when available).

Wind Instruments: Music 200/400 (4 units); Music 425A-B, 460, 464.

Voice: Music 328, 332, 421, 426, 432A-B, 460 or 462.

Opera: Music 328, 332, 421, 463; Theatre Arts 331; 3 additional units selected from Theatre Arts 242, 244, 246; Dance 162; Music 130/330 allowed for 4 units of activity credit.

Piano Accompanying: Music 200/400 (4 units); Music 321, 326A-B, 328, 332, 421, 431A-B, 433, 460 or 462.

Commercial Music: Music 200/400 (at least 4 units, 1 of these in New Music Ensemble); Music 271, 370, 371, 372, 393, 442, 446, 474. (Two units of Music 429 or X429 must be taken on doubles for reed majors.)

#### **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 (guitar), 350, 381, 386, 421 or 425A, 450, 451, 452; Educational Psychology 301, 305, 350, 451; Biology 107, 200; Psychology 100, 370; Sociology 100 and one other sociology elective.

#### **Minor in Music (code 0-5820)**

Achieve proficiency on primary instrument or voice equivalent to entering music major. A minimum of 20 units, nine of which must be upper division, distributed as follows:

*Lower Division:* Music 120A-B, 122A, 140, 160; 100 or 300, 125 or 325.

*Upper Division:* Music 390, 327 or 481, 421 or 425A. Credential candidates should take EDSS 450N.

#### **Master of Arts Degree with a Major in Music (code 5-5820)**

##### **Prerequisites**

1. A bachelor of arts with a major in music or bachelor of music degree, *or*:
2. A bachelor's degree with a minimum of 24 units of upper division courses in music comparable to those required of a major in music at this University.
3. Submission by the student of official transcripts from all colleges and universities attended; one set to be filed with the Office of Admissions and Records, and a second set with the Music Department Graduate Adviser.
4. The student must take the Music Department Graduate Placement Examination. All prospective students are expected to take the examination before they register for courses applicable to the degree. (Under special circumstances a student may take the examination during the first semester in which he or she is registered in courses applicable to the degree.)

##### **Advancement to Candidacy**

1. Approval of a graduate program by the department graduate adviser (and by the student's graduate committee when one is required by the nature of the program), the chair of the Music Department and the Dean of Graduate Studies.
2. The student may file for advancement to candidacy after removing all deficiencies and completing all prerequisites.

**Requirements for the Master of Arts**

1. Completion of a minimum of 30 units of approved upper division and graduate courses with at least 24 units in the major. (The program may not include more than six units of transfer graduate credit.)
2. A minimum of 15 units in the 500 and/or 600 series in music including Music 541, 542, 696 and two courses chosen from Music 560, 561, 562, 563, 564 and 565. Music 696 should be taken the first time it is offered.
3. Up to six units of upper division or graduate courses may be taken outside the major with the approval of the student's graduate committee or the graduate adviser.
4. Either a comprehensive examination administered by the department graduate adviser or Music 698 (thesis, recital or project) supervised by the student's graduate committee.
5. Either an oral examination for those students electing to take the comprehensive examination, or an oral defense of thesis, recital or project.

**Teaching Credentials:**

See Instrumental Music and Choral-Vocal Music options under B.M. degree. For further information consult credential adviser.

**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 organization is permitted.

**Lower Division****020. Semester Recital (1) 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.

**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.

**160. The Arts and Society (3) F, S Faculty**

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**

Prerequisite: General Psychology. An overview of the field for students considering music therapy as a career.

**250B. Introduction to Music Therapy (2) S Roskam**

Prerequisites: Official acceptance into the music therapy program, Music 250A, Biology 107. Formal orientation to various uses of music in therapy with a variety of patient populations.

**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.

**290. Music in General Culture (3) F,S Faculty**

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, orchestra, 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) S 1982 Faculty**

Prerequisite: Music 222B or consent of instructor.

**323. Junior Project (1) F,S Faculty**

Recital of the standard literature for solo instrument or voice in the performance option in the bachelor of music degree. Enrollment restricted to music majors passing the qualifying examination.

**324. Introduction to Organ Technique (2) F,S Faculty**

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.

**\*326A,B. Piano Accompanying (2,2) F,S Kovalenko**

Prerequisite: Piano major or consent of instructor. Instruction and training in the art and the techniques of accompanying for singers, instrumentalists and ensembles. Students with credit in Music 228 or 326 may enroll only in 326B. (Lecture 1 hour, activity 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 Faculty**

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**

View of historical and contemporary uses of music to influence behavior.

**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.

**381. Foundations of Music Education (3) F,S Faculty**

Prerequisite: Music 386. 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 Faculty**

Music materials designed for children's listening and singing, together with principles of presentation.

**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.

**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**

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.

**423. Senior Project (1) 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. Not open to students with credit in Music 428.

**\*424A-B. Advanced Organ (2,2) F, S Faculty**

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 Kuehn, Lampl**

Three hours weekly. (425A not open to students with credit in Music 420.)

**\*426. Vocal Pedagogy (2) F Faculty**

Prerequisite: Consent of instructor. Theory and techniques of teaching voice.

**\*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. Registration 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 Faculty**

Prerequisite: Voice major or consent of instructor. Selecting and preparing song literature for public performance. Coaching in languages, musical style and vocal techniques.

**433. Piano Repertoire (2) S Kovalenko**

Prerequisite: Music 360 or 390 or consent of instructor. Survey of music for the piano, emphasizing compositional and stylistic characteristics of specific periods and composers.

**\*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 (4) F Roskam**

Introduction to the physical aspects of music with emphasis on psychological and perceptual responses to music. Primarily for music therapy majors.

**451. Music in Therapy (2) S Roskam**

Prerequisite: Music 250B. Continued development of methods and materials used in music therapy. Clinical responsibilities expanded.

**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.

**453. Music Therapy Internship (6) F, S Roskam**

Prerequisite: All music therapy coursework. Extension of academic preparation involving the supervised application of learned therapeutic principles to provide assistance to human beings defined as "handicapped."

**\*460. Studies in Performance Practices (3) F Forney**

Prerequisite: Music 360 or consent of instructor. Surveys problems of vocal and instrumental performance in music of the Middle Ages, Renaissance and Baroque.

**\*461. Studies in Keyboard Music (3) S, 1982 and alternate years Rayner**

Prerequisite: Music 360 or consent of instructor. Survey of the evolution of keyboard music including the clavichord, harpsichord, piano and organ from the 13th century to the present.

**\*462. Studies in Vocal Music (3) F, 1981 and alternate years Faculty**

Prerequisite: Music 360 or consent of instructor. A studies course in vocal music spanning at least three epochs of music history and covering a minimum of two of five categories: solo song, small ensemble-sacred, small ensemble-secular, large ensemble-sacred and large ensemble-secular.

**\*463. Music of the Theater (3) S 1982 Lampl**

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. Studies in Instrumental Music (3) S, 1982 and alternate years Faculty**

Prerequisite: Music 360 or consent of instructor. A studies course in instrumental music spanning at least three epochs of music history and covering a minimum of two of four categories: solo sonata (excluding keyboard), chamber music, orchestral/symphonic and orchestral/concerto.

**\*465. Studies in Ethnomusicology (3) F Wilson**

Prerequisite: Music 360 or consent of instructor. Emphasis on theory and methodology of ethnomusicological study. Investigation of music of particular non-western cultures or areas. For music majors only.

**\*469. Music in the Humanities (2) S Even years Faculty**

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 Faculty**

Marching fundamentals, charting formations, precision drills, parade technique and half-time pageantry.

**\*481. Instrumental Organization and Literature (3) S Faculty**

Procedures for organization and development of instrumental programs and literature for performing groups.

**482A,B. Instrumental Music Laboratory (1,1) F,S Faculty**

Laboratory experience in performance on secondary instruments of elementary and junior high level music materials.

**\*483A,B. Choral Repertoire (1,1) F,S Faculty**

Traditional and contemporary choral repertoire for public school teachers and church choir directors.

**484. Church Music Practicum (2) S Faculty**

Prerequisites: Music 421, 483A or consent of instructor. Basic approaches and techniques in the organization and function of church choirs (children, youth, adult) within the context of the liturgies and services of worship of the major denominations. Techniques in the selection and preparation of repertoire for these various situations.

**485. Teaching Strings (2) S Faculty**

Prerequisites: Two semesters of string classes, Music 125 or 325 or equivalent. Teaching string classes effectively; beginning and intermediate levels; dealing with separate and mixed classes (violin, viola, cello and bass combined); correct methods of playing and practice; applied musicianship; motivating the young string player.

**\*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. Music 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. Acoustics of Music (3) S Faculty**

Prerequisites: Music 342, 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, 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 Conducting (3) S Lampl, Pooler**

Prerequisite: Consent of instructor. Advanced baton technique, interpretation, securing proper sound, organizing routine and program making.

**541. Studies in Homophonic Music (3) S Andrus, Dallin**

Prerequisites: Music 341, 441, or equivalent. Intensive analysis and synthesis of homophonic forms and techniques with emphasis on those of the twentieth century.

**542. Studies in Polyphonic Music (3) F Becker, Sindelar**

Prerequisites: Music 241, 341 and 441 or equivalent. Intensive analysis and synthesis of the forms and techniques of polyphonic music from the Middle Ages to the present.

**560. Music of the Middle Ages (3) F, 1981 and every third semester Forney**

Prerequisites: Music 341, 360, or consent of instructor. Survey of medieval music from the beginnings of polyphony to approximately 1450. Both monophonic and polyphonic will be covered.

**561. Music of the Renaissance (3) F Forney**

Prerequisites: Music 341, 360, or consent of instructor. Stylistic analysis and inquiry into the cultural background. Reference to notation, sources, bibliography, and editions.

**562. Music of the Baroque Period (3) S Wilson**

Prerequisites: Music 341, 360, or consent of instructor. Stylistic analysis and inquiry into cultural background.

**563. Music of the Classic Era (3) S Wilson**

Prerequisites: Music 341, 360, or consent of instructor. Music from the Rococo to the end of the eighteenth century. Philosophical attitudes in relation to the musical style.

**564. Music of the Romantic Era (3) S Wilson**

Prerequisites: Music 341, 360, or consent of instructor. Music from Beethoven to the end of the nineteenth century.



**565. Twentieth Century Music (3) F Rayner**

Prerequisites: Music 341, 360, or consent of instructor. Stylistic analysis and music; aesthetic and socioeconomic problems of contemporary music, survey of new music.

**581. Studies in Elementary School Music (3) S Faculty**

Prerequisite: Limited to music majors and minors. Consideration of current practices, curriculum, trends and issues in elementary school music. Selection of various topics appropriate to the needs of individual class members. Oral and written reports.

**645. Seminar in Advanced Composition (3) F,S Faculty**

Prerequisites: Music 443, 444, 445, or equivalent. Free composition in the more extended forms for various combinations of instruments including full orchestra and band.

**660. Seminar in the History of Music (3) S Wilson**

Chronological survey of historical styles in western music from ancient times to the present.

**680. Seminar in Instrumental Music Teaching (3) F Curtis**

Prerequisite: Consent of instructor. Principles, procedures, and materials used in teaching instrumental music in the public schools. Special attention given to methods and materials used in instrument classes.

**681. Seminar in Choral Music Teaching (3) S Pooler**

Prerequisite: Limited to music majors and minors. Research and analysis of principles, procedures, curricula and materials used in choral music performance and composition at all levels of teaching.

**695. Reading and Research Seminar (3) S Rayner**

Prerequisite: Consent of the graduate adviser.

**696. Research Methods (3) F,S Rayner**

Bibliography; approaches to contemporary problems in music; demonstration of competence. Required of all master's degree candidates in music.

**698. Thesis (2-6) F,S Matthews**

Planning, preparation, and completion of a thesis or project related to this field. Limited to graduate students who have taken or are taking Music 696.

# Natural Sciences

## School of Natural Sciences

**Dean:** Dr. Roger Bauer

**Associate Dean:** Dr. Lee Stephens

In a world where science plays an increasingly important role, and where an understanding of the sciences is essential for an informed citizenry, the School of Natural Sciences is dedicated to providing quality educational opportunities in the life and physical sciences not only for those embarking on careers in sciences, but for the non-science majors as well.

A continuing effort is made to provide students with a broad-based, fundamental level of education in one of the natural sciences, as well as to instill in all students the ability to think and act in a scientific way. For those who pursue science careers, the success of the School's graduates illustrates how students from the School are well-prepared to enter graduate and professional schools, or to assume responsible positions in industrial or governmental laboratories.

The School is dedicated to the concept that a university has a special responsibility toward academic excellence and the advancement of knowledge. The faculty and staff of the Departments of Biology, Chemistry, Geological Sciences, Microbiology and Physics/Astronomy are committed to the continued building of a reputation of this University to provide an outstanding educational experience for all students.

### Degrees Offered

All departments within the School of Natural Sciences offer both the Bachelor of Science and Master of Science degrees. Additionally, the Departments of Biology, Chemistry and Physics/Astronomy also offer the Bachelor of Arts degree, while the Department of Physics/Astronomy offers a Master of Arts degree. Each degree has differing requirements, and students should refer to departmental offerings to determine specific requirements. This should be done early in a student's academic career in order that proper advising and planning might be obtained.

### Consortium Programs

The School of Natural Sciences' close association with the Southern California Ocean Studies Consortium and the Desert Studies Consortium enables students to broaden their interests and knowledge of environmental studies. In this way, CSULB students can benefit from the added expertise of faculty members of other institutions, as well as the unique facilities possible through such arrangements.

### Science Education

The School of Natural Sciences, through its Science Education Office, has become a leader in assisting public schools in their efforts to improve the quality of science teaching, as well as keeping current with new developments in the world of science. The Science Education Office plays a key role in the training of new teachers, as well as offering a continuing program of in-service training for veteran teachers seeking to improve and expand their curricula. The Office maintains an extensive curriculum library, reference center and guides to media material, all of which have proven invaluable to those who teach in the elementary, junior high and high schools of the area.

**Science Student Learning Center**

Recognizing that all students have unique learning needs, the Science Student Learning Center seeks to meet these needs outside the traditional lecture halls and laboratories. The Center is equipped with video tape cassette plays, slide and audio programs, and a variety of other types of equipment. Materials for use with this equipment, as well as textbooks, files of previous examinations, and study guides are available for students who use the Center. Qualified upper division and graduate students who staff the Center are also available for some tutorial assistance. The Center's activities are directed not just at the science major, but for the non-science major as well who may be having difficulties with previously unfamiliar subjects.

**Student Organizations**

The School of Natural Sciences Student Council is one of the most active and effective student organizations at the University. Their efforts have made significant contributions to the School's educational program, including the bringing to campus of respected seminar speakers. In addition to the School-wide student organization, each department has a student organization that also plays a vital role.

**Pre-Professions Health Office**

The School's Pre-Health Professions Office offers services to the University students interested in entering the professional health fields: dentistry, medicine, optometry, osteopathy, pharmacy, podiatry, and veterinary medicine. Pamphlets, catalogs, and college admission testing information of all types are available, as well as a system for maintaining letters of recommendation. Opening a file in the Pre-Health Professions Office allows students to have one centralized location for all letters of recommendation that have been written for them, and for the letters to be collected throughout their student careers at the time their instructors know them best.

**Science Museum**

The School maintains a Science Museum (in SB 1), which is open to the University community, as well as to the public at large. The Museum's rotating exhibits and displays illustrate the world of science in simple, easy to understand terms. Material for the Museum is periodically taken from the School's extensive collections that are normally used in instruction and not necessarily available for display. In addition to the Museum in SB 1, the School operates a Mobile Science Museum, a 26-foot van that has been converted to a museum on wheels. The Mobile Museum takes the exhibits and displays on the road, visiting schools, shopping centers, and civic events.

**Science Education****Upper Division****301. Science in the Elementary School (3) F,S Ritz**

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.)

**305. Workshop in Environmental Education (3) F,S Ritz**

Interdisciplinary workshop/seminar course intended for teachers of all grade levels or subject specialties, K-12. Current environmental issues, field excursions, involvement with innovative curricular materials and development of teaching/learning units for class use. (Lecture 2 hours, workshop 2 hours.)

**490. Special Topics in Science Education (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Selected topics in science education. Course content will vary from section to section. May be repeated for credit with the consent of instructor.

**496. Directed Studies in Science Education (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Supervised study of current topics in science education. May be repeated for credit.

# Nursing

## School of Applied Arts and Sciences

**Department Chair:** Dr. Joan Cobin.

**Emeriti:** Mabel J. Hoffman, Phyllis Lackey, Dorothy L. Walsh.

**Professors:** Cobin, Kaufman, Koehler, Mayberry, Moore, Pentecost, Sucher.

**Associate Professors:** Ford, Meisenheimer, Nelms, Roberts, Siegel, Sparks, White.

**Assistant Professors:** Brady, Jasmin, Mullins, Murphy, Sakamoto, Schwartz, J. Smith, Timpke.

**Lecturers:** Bramble, Child, Field, Hanson, Hill, Howard, Huckabay, Khoiny, McCarthy, Morgan, Owens, Sater, Smith, Wroblewski.

### **Academic Advising Coordinators:**

Basic Students: Ms. Elaine White.

R.N. Students: Ms. Sylvia Jasmin.

Graduate Students: Ms. Colleen Sparks.

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### **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 test that assesses 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 from their assigned nursing adviser upon acceptance into the University.

#### 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 (it is recommended that General Education requirements be completed).
3. Obtain malpractice insurance.
4. Have completed two social science courses (Psychology and Sociology) and six units of natural science courses with a grade of C or better in each.
5. Complete a test 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 132 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."

All courses offered by the Nursing Department are letter graded unless otherwise specified in writing by the instructor(s) during the first class meeting.

#### Basic (code 3-1072)

##### Required Support Courses

Chemistry 200†, 300†; Biology 208†, 209†, 345; Microbiology 210†, 345, two social sciences† (Psychology 100 and Sociology 100); and an upper division statistics course.

##### Required Nursing Courses

Nursing 200, 200L, 202, 202L, 250, 250L, 252, 253, 253L, 254, 300, 300L, 302, 307, 350, 350L, 352, 357, 400, 400L, 402, 402L, 450, 450L, 452, 452L.

#### R.N. (code 3-1072)

**Prerequisites:** Completion of 56 transferable units and California R.N. license. Completion of general education requirements is advised.

##### Required Support Courses

Chemistry 300, Biology 345, Microbiology 345, an upper division statistics course.

##### Required Nursing Courses

Nursing 305, 305L, 307, 355, 355L, 357, 400, 400L, 402, 402L, 450, 450L, 452, 452L.

#### Master of Science in Nursing

The master of science degree is available to qualified students who desire advanced preparation in a variety of clinical specialty areas.

The philosophy of graduate nurse education is that the practice of nursing is constantly changing as health needs and health delivery systems are altered. Integral to nursing is an ability to work effectively and cooperatively with other disciplines and community services to promote health.

The focal point in this curriculum is the nursing process with strong components of clinical medical knowledge complemented by behavioral science concepts. Courses are interdependent and have been structured to provide clinical depth in the area of student's choice.

The graduate will have the knowledge and skill to function as a nurse practitioner or clinical specialist in one of several specialty areas. Nursing research skill and application to nursing theory and practice is a major emphasis of the curriculum.

Each applicant should request a copy of the official transcript of all college course work be sent to the department graduate adviser of nursing in addition to the copies required by the Office of Admissions and Records.

#### Master of Science Degree in Nursing (code 6-1072)

##### Prerequisites

1. A bachelor's degree in nursing from an accredited school of nursing.
2. Current license to practice as a registered nurse in California.
3. Admission to graduate standing in nursing at the University.
4. An upper division or graduate course in statistics.
5. An approved course, which includes clinical practice, in physical assessment.
6. Biology 345 or an equivalent course.
7. An upper division public health nursing course.
8. An overall grade point average of 3.0 or better; an upper division nursing grade point average of 3.0 or better and a science grade point average of 3.0 or better. Students who fall below these averages on a single parameter will be evaluated on an individual basis.

† Course is a prerequisite to Nursing 200.

Students who have graduated from schools of nursing without the principles of physical assessment may take such a course through continuing education. Competence in this area is a prerequisite to Nursing 660, 680 and 680L.

#### **Advancement to Candidacy**

1. Satisfy the general University requirements for advancement to candidacy.
2. Completion of all undergraduate deficiencies.
3. Successful completion of the CSULB Graduation Writing Proficiency Examination.
4. Approval of the department graduate adviser and Director of Graduate Studies and Research, School of Applied Arts and Sciences.

#### **Requirements for the Master of Science**

1. Completion of a minimum of 36 units in upper division and graduate courses.
2. Completion of Nursing 680 (six units), 680L (six units), 660 (six units), 696 and 698 (four units).
3. An overall grade point average of 3.0 or better in all courses.
4. Completion of an approved thesis.

#### **Certificate as a Nurse Practitioner**

Admission to the program is by application to the Department of Nursing.

The certificate program consists of a one-year course of study for the preparation of nurse practitioners. The clinical courses focus upon the assessment and management of common illnesses. The program includes integrated classroom and clinical experiences.

All practitioner students take the same academic courses; their clinical course requirements, however, are met in a variety of ambulatory care settings. Thus they are prepared as pediatric nurse practitioners, geriatric nurse practitioners, family nurse practitioners, adult nurse practitioners or mental health nurse practitioners. The completion certificate will designate the graduate's clinical expertise.

**Prerequisites for the Certificate Program are the same as admission to the graduate program.**

#### **Requirements for the Certificate as a Nurse Practitioner**

1. Completion of the following 18 units: Nursing 660A and B, 680A and B, 680L (two semesters). For designated support courses see department adviser.
2. An overall grade point average of 3.0 or better in all courses.

All courses offered by the Nursing Department are letter graded unless otherwise specified in writing by the instructor(s) during the first class meeting.

#### **Lower Division**

##### **150. Explorations in Nursing (2) F,S Faculty**

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 Faculty**

##### **200. Basic Health Theory and Nursing Skills (4) F,S Meisenheimer**

Prerequisites: Sophomore standing, Biology 208, 209, Chemistry 200, 300, Microbiology 210, one psychology course and one sociology course (six units), consent of instructor. Co-requisites: Nursing 200L, 202, 202L. Development of concepts of high level wellness and self-care. Introduction to physical and social science principles which provide the basis for beginning level nursing theory and practice. Introduction to the nursing process as the framework for nursing theory. (Lecture-discussion 4 hours.)

##### **200L. Health Skills Laboratory I (2) F,S Meisenheimer**

Prerequisites: Biology 208, 209, Chemistry 200, 300, Microbiology 210, one psychology course and one sociology course (six units), consent of instructor. Co-requisites: Nursing 200, 202, 202L. Guided utilization of beginning level theory and skills in a simulation and clinical laboratory utilizing the concepts of the nursing process in patient care delivery. (Laboratory 6 hours.)

##### **202. Human Awareness in the Health Professions (2) F,S Faculty**

Prerequisite: Consent of instructor. Co-requisites: Nursing 200, 200L, 202L. Introduction to understanding the individual and the psychosocial and cultural factors which influence his responses to his environment. Primary focus is on the health profession and on the health professional-client interaction.

##### **202L. Human Awareness in the Health Professions Laboratory (1) F,S Faculty**

Prerequisites: Consent of instructor. Co-requisites: Nursing 200, 200L, 202. Reality-oriented projects in simulated and direct client contact provide opportunities for application of theory presented in Nursing 202.

##### **250. Intermediate Health Theory and Nursing Skills (4) F,S Meisenheimer**

Prerequisites: Nursing 200, 200L, 202, 202L, consent of instructor. Co-requisites: Nursing 250L, 251, 253, 253L. Development of intermediate level theory of physiological and psychosocial wellness and accountability. Application of recognized physical and social science principles and current research findings to intermediate level nursing theory and skills essential to the actualization of the nursing process. (Lecture-discussion 4 hours.)

##### **250L. Health Skills Laboratory II (2) F,S Faculty**

Prerequisites: Nursing 200, 200L, 202, 202L, consent of instructor. Co-requisites: Nursing 250, 251, 253, 253L. Guided laboratory experience to assist the student to synthesize intermediate level theory and gain skills in selected nursing process activities in simulation and indirect patient care. (Laboratory 6 hours.)

##### **251. Legal Aspects of Health Care (2) F,S Mayberry**

Prerequisites: Nursing 200, 200L, 202, 202L, consent of instructor. Co-requisites: Nursing 250, 250L, 253, 253L. Legal duties and responsibilities of nurses and other professional health care personnel in the delivery of health services. Professional licensure regulations and scope of nursing practice are emphasized. (Lecture-discussion 2 hours.)

##### **253. Physical Assessment (2) F,S Schwartz**

Prerequisites: Nursing 200, 200L, 202, 202L, consent of instructor. Co-requisites: Nursing 250, 250L, 251, Microbiology 345. Study of basic techniques of history taking and physical assessment which are used by the nurse in identification of patient problems.

##### **253L. Physical Assessment Laboratory (1) F,S Schwartz**

Co-requisites: Nursing 250, 250L, 251, 253, consent of instructor. 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.)

##### **300. Nursing Process I (2) F,S Hanson, J. Smith, Wroblewski**

Prerequisites: Nursing 250, 250L, 251, 253, 253L, consent of instructor. Co-requisites: Nursing 300L, 302, 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 Hanson, J. Smith, Wroblewski**

Prerequisites: Nursing 250, 250L, 251, 253, 253L, consent of instructor. Co-requisites: Nursing 300, 302, 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 Hanson, J. Smith, Wroblewski**

Prerequisites: Nursing 250, 250L, 251, 253, 253L, consent of instructor. Co-requisites: Nursing 300, 300L, 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.)

**305. Nursing Assessment I (2) F, S Hill, Jasmin, Owens, N. Smith**

Prerequisites: Admission to the University as a nursing major 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 adaptations. Included are selected concepts of communication, psychosocial assessment, influencing factors, therapeutic relationships, nursing process and expanded role of the nurse. (Lecture-discussion 2 hours.)

**305L. Nursing Assessment Laboratory I (2-5) F, S Hill, Jasmin, Owens, N. Smith**

Prerequisites: Admission to the University as a nursing major and 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 and psycho-social assessment. (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 nursing major. Study of the physiological, social, intellectual and emotional development of persons as individuals and as family members from conception through adolescence. (Lecture-discussion 3 hours.)

**350. Nursing Process II (2) F, S Child, Ford, Murphy**

Prerequisites: Nursing 300, 300L, 302, 307; Microbiology 345, consent of instructor. Co-requisites: Nursing 350L, 352, 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, 307; Microbiology 345, consent of instructor. Co-requisites: Nursing 350, 352, 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, 307; Microbiology 345, consent of instructor. Co-requisites: Nursing 350, 350L, 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.)

**355. Nursing Assessment II (2) F, S Hill, Jasmin, N. Smith**

Prerequisites: Nursing 305, 305L, Chemistry 300, Microbiology 345, consent of instructor. Co-requisites: Nursing 355L, 357, Biology 345. Role of the nurse in facilitating adaptation toward optimum health for individuals and families. Particular emphasis on physical and psychosocial 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 physical and psychosocial assessment of patients, based on an 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 and application to nursing 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 White**

Prerequisites: Nursing 350, 350L, 352, 357; Biology 345, (Nursing 355, 355L for R.N.'s in place of Nursing 350, 350L, 352) 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 White**

Prerequisites: Nursing 350, 350L, 352, 357; Biology 345, (Nursing 355, 355L for R.N.'s in place of Nursing 350, 350L, 352, 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 White**

Prerequisites: Nursing 350, 350L, 352, 357; Biology 345, (Nursing 355, 355L for R.N.'s in place of Nursing 350, 350L, 352) 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 White**

Prerequisites: Nursing 350, 350L, 352, 357; Biology 345, (Nursing 355, 355L for R.N.'s in place of Nursing 350, 350L, 352), 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 Huckabay**

Prerequisites: Nursing 400, 400L, 402, 402L, upper division 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, upper division statistics, 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, Roberts, Sucher**

Prerequisites: Nursing 400, 400L, 402, 402L, upper division statistics, 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, Roberts, Sucher**

Prerequisites: Nursing 400, 400L, 402, 402L, upper division statistics, 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.)

**481. Parenting (3) F, S Faculty**

Prerequisite: Upper division standing. Effective parenting with emphasis on common parenting concerns and the developmental tasks of parents and children.

**482. Physical Assessment and Aging (3) F, S Sucher**

Prerequisite: Upper division standing. Study of the physical, emotional and social changes which accompany aging. Theory and practice in the assessment of these factors. Course is designed to prepare the average lay person and those in the helping professions to work with the aged and deal with their own aging.

**\*490. Independent Study (1-3) On demand Faculty**

Prerequisite: Consent of any nursing faculty. Students who have made prior arrangements with a faculty adviser for appropriate learning objectives may enroll. 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. Topics consistent with contemporary nursing or curricular trends will be announced each semester. Credit may be earned for course each time a new topic is offered.

**Graduate Division****555. Critical Issues in Nursing (2) F Faculty**

Current major issues in nursing and health care within their sociological and historical context

**556. Theoretical Concepts in Nursing (2) S Cobin, Timpke**

Theories of learning and systematic curricular planning. Application of these theories to nursing education and clinical instruction.

**556L. Theoretical Concepts of Nursing Education Laboratory (1) F, S Timpke**

Co-requisite: Nursing 556. Individualized practicum for the application of theories learned in Nursing 556.

**557. Nursing Interaction with the Elderly (3) F, S Faculty**

Prerequisites: Graduate standing, consent of instructor. Study of the psychosocial development, needs and problems of the elderly and related nursing intervention.

**558. Nurse Advocate and the Elderly Client (3) F, S Pentecost**

Emphasis is upon the enhancement of the nurse advocate's ability to relate the major social problems and the status of current/pending legislation to the elderly clients' needs, the health care delivery system and the health care the nurse practitioner provides.

**559. Nursing Administration (3) F, S Mayberry**

Theories, issues and application of techniques pertaining to management applicable to nurses in the clinical setting.

**660A,B. Theoretical Base for Advanced Nursing Practice (3,3) F, S Jasmin, Moore, Mullins, Nelms, Siegel**

Prerequisites: Biology 345, Physical Assessment. Study of the relationship of psychosocial theory to health care with an emphasis on the application of theory to clinical practice. Various sections will focus on different areas of clinical interest.

**680A,B. Theories for Extended Nursing Practice (3,6) F, S Moore, Siegel, Sparks**

Prerequisites: An acceptable course (including laboratory practice) of Physical Assessment, Biology 345. Normal and pathological conditions and the management theory base applicable for the role of nurse practitioner in clinical areas of concentration. May be repeated for credit with change of topic.

**680C. Theories for Extended Nursing Practice (3) F, S Faculty**

Prerequisites: An acceptable course (including laboratory practice) of physical assessment and Biology 345. Normal and pathological conditions and the management theory base applicable for the role of nurse practitioner in clinical areas of concentration. May be repeated for credit with change of topic.

**680L. Clinical Studies in Nursing (3,3) F, S Faculty**

Co-requisite: Nursing 680. A laboratory course offering clinical experience in selected settings to prepare the student for advanced nursing practice. May be repeated for credit with change of topic. A maximum of nine units for degree credit.

**696. Research Methods (3) F, S Koehler**

Prerequisite: Upper division course in statistics. The research process in nursing including the use of theory, study design, data collection, data analysis and interpretation of findings.

**698. Thesis (1-4) F, S Faculty**

Prerequisites: Advancement to candidacy and consent of department graduate adviser. Planning, preparation and completion of a thesis in clinical nursing.

# Ocean Science Studies

## Center for Ocean Science Studies

**Director:** Dr. Paul A. Dehnel.

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 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.

# Philosophy

## School of Humanities

**Department Chair:** Mr. William M. Johnson.

**Professors:** Bonis, Guerriere, Kim, McGowan, Massey, Maue, Peccorini, Quest, Ringer, Strickler.

**Associate Professors:** Andre, Clark, Johnson, Spangler.

**Undergraduate Adviser:** Mr. William M. Johnson.

**Graduate Adviser:** Dr. Shane Andre.

The undergraduate 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.

The Department of Philosophy offers graduate studies leading to the master of arts degree. The candidate is responsible for observing the general requirement stated in this *Bulletin* as well as the specific departmental requirements available from the Philosophy Department.

Prospective candidates should see a faculty adviser in order to plan a tentative program.

Although there is no formal language requirement, the Philosophy Department may require the student to demonstrate a foreign language proficiency whenever — at the department's discretion — a language proficiency is appropriate to the area of study.

Graduate assistantships and departmental reader positions are sometimes available for qualified persons. The graduate assistant works closely with a member of the graduate faculty, but is not responsible for instruction. Application for these positions is made to the chair of the Philosophy Department.



**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 312, 313, 316, 419. 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 312, 313, 316, 419.

**Master of Arts Degree with a Major in Philosophy (code 5-6807)****Prerequisites**

1. A bachelor's degree with a major in philosophy, or;
2. A bachelor's degree with a minimum of 24 units of upper division courses in philosophy. These courses must be comparable to those required of a major in philosophy at this University.
3. Deficiencies will be determined by the graduate adviser after consultation with the student and after study of transcript records.

**Advancement to Candidacy**

1. The graduate student will be expected to demonstrate proficiency in the areas of epistemology, metaphysics, ethics and symbolic logic. A grade of B in a semester course in each of these areas would constitute evidence of such proficiency.
2. The graduate student who expects to become a candidate for the master of arts degree in philosophy will be required to pass a basic qualifying examination. Normally, the student will be expected to complete this examination early in her/his graduate work.
3. The student's graduate program must be approved by the faculty adviser, the graduate adviser and the Dean of Graduate Studies.

**Requirements for the Master of Arts**

1. The student's graduate program must consist of not less than 30 units of acceptable upper division and graduate courses, of which at least 24 units must be in philosophy. The remaining six units must be chosen in conference with the student's faculty adviser, and may be taken either in philosophy or in another field of study closely related to the candidate's educational objectives. The program must include a minimum of 15 units of graduate courses, with a minimum of six units from the 600 series. Philosophy 697 and 698 may not count toward fulfillment of the 600 series minimum requirement.
2. A thesis or comprehensive examination.

**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. Elementary Logic (3) F, S Faculty**  
Elements of clear, straight, orderly and valid thought, including deductive and inductive reasoning and the accurate use of language. This course explores practical applications of logic.
- 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****Early Philosophy**

- \*306. Philosophies of China and Japan (3) S Kim**  
Historical and critical study of the philosophical thought of China and Japan.
- \*307. Philosophies of India (3) F Kim**  
Historical and critical survey with emphasis on basic ideas and traditions.
- \*421. Plato (3) F Guerriere, Spangler, Strickler**  
Prerequisite: Three units of philosophy. Close study of Plato's thought, based primarily on readings from his works.
- \*422. Aristotle (3) F 1981 Guerriere, Spangler, Strickler**  
Prerequisite: Three units of philosophy. Close study of Aristotle's thought, based primarily on readings from his works.
- \*490A. Special Topics-Early Philosophy (3) F, S Faculty**  
Detailed and intensive study of figures, periods or issues in ancient or medieval philosophy. Specific issues, period or figures will be announced in the *Schedule of Classes*. Sample titles: Pre-Socratic Philosophy, Post-Aristotelian Philosophy, Medieval Philosophy. May be repeated for credit to a maximum of nine units with different topics. Graduate students must also enroll in one unit of Philosophy 599.

## Modern Tradition

- \*413. **Continental Rationalism (3) F Bonis, Clark, Massey**  
Prerequisite: Three units of philosophy. Close study of such major figures as Descartes, Spinoza and Leibniz.
- \*414. **British Empiricism (3) S Clark, McGowan**  
Prerequisite: Three units of philosophy. Close study of such major figures as Locke, Berkeley, Hume.
- \*423. **Kant (3) F Bonis, Johnson, Peccorini**  
Prerequisite: Three units of philosophy. Intensive 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.
- \*490B. **Special Topics-The Modern Tradition (3) F,S Faculty**  
Detailed and intensive study of a significant philosopher, or of some issue or theme of the modern (1600-1900) philosophical era. Specific titles will be announced in the *Schedule of Classes*. Sample titles: Hobbes, German Idealism, Nietzsche. May be repeated for credit to a maximum of nine units with different topics. Graduate students must also enroll in one unit of Philosophy 599.

## Twentieth Century Philosophy

- \*312. **Phenomenology (3) S Bonis, Guerriere**  
Prerequisite: Three units of philosophy. Study of one of the major movements of contemporary philosophy. Themes treated may include knowledge, meaning, emotionality, embodiment, language, sociality, freedom and religion. Philosophers treated may include Husserl, Scheler, Heidegger, MerleauPonty and Ricoeur.
- \*313. **Existentialism (3) F Bonis, Guerriere, Peccorini**  
Intensive study of such issues as self-as-existence, freedom and responsibility in their ethical, religious, political and aesthetic dimensions. Philosophers treated may include Kierkegaard, Nietzsche, Marcel, Jaspers, Sartre and Camus.
- \*316. **Pragmatism (3) S Quest, Ringer**  
Prerequisite: Three unit of philosophy or consent of instructor. Development of pragmatism as exemplified in the philosophies of Peirce, James, Dewey and Mead.
- \*419. **Analytic Philosophy (3) F Andre, Johnson, Spangler**  
Prerequisite: Three units of philosophy. Critical analysis of major movements in the development of Anglo-American philosophy in the twentieth century, such as logical atomism, logical positivism and ordinary language philosophy. Intensive study of the contributions of such philosophers as Moore, Russell, Wittgenstein, Ayer, Ryle, Austin, Strawson, Quine.
- \*490C. **Special Topics-Twentieth Century Philosophy (3) F,S Faculty**  
Detailed and intensive study of a significant philosopher or of a school or movement of the twentieth century. Specific title will be announced in the *Schedule of Classes*. Sample titles: Wittgenstein, Heidegger, Russell, Process Philosophy. May be repeated for credit to a maximum of nine units with different topics. Graduate students must also enroll in one unit of Philosophy 599.

## Metaphysical Studies

330. **Philosophy of Religion (3) F,S Bonis, Guerriere, Kim, Peccorini, Quest, Strickler**  
Nature and function of religion and of fundamental religious concepts and ideals.

442. **Metaphysics (3) F,S Bonis, Guerriere, McGowan, Peccorini, Strickler**  
Prerequisite: Three 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.

- \*483. **Philosophical Psychology (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.

- \*490D. **Special Topics-Metaphysical Studies (3) F,S Faculty**  
Seminar study of a selected metaphysical topic. Sample topics: Time, Personal Identity, Philosophical Theology, Philosophy of Action. Specific topic will be announced in the *Schedule of Classes*. May be repeated for credit to a maximum of nine units with different topics. Graduate students must also enroll in one unit of Philosophy 599.

## Epistemological Studies

- \*381. **Philosophy of Science (3) F Clark, Maue**  
Problems, methods and fundamental concepts of the sciences, including the relationships of the sciences to each other, to mathematics and to philosophy.

482. **Theory of Knowledge (3) F,S Andre, Clark, Johnson, McGowan**  
Prerequisite: Three units of philosophy. Investigation of such concepts as knowledge, belief, certainty. Critical study of theories concerning such issues as our knowledge of the external world, the past, other minds.

- \*490F. **Special Topics-Epistemological Studies (3) F,S Faculty**  
Seminar study of a selected epistemological topic. Sample topics: Philosophy of History, Philosophy of Perception. Specific topic will be announced in the *Schedule of Classes*. May be repeated for credit to a maximum of nine units with different topics. Graduate students must also enroll in one unit of Philosophy 599.

## Studies in Logic and Semantics

- \*470. **Symbolic Logic II (3) F,S Clark, Johnson, Quest**  
Prerequisite: Philosophy 270 or Mathematics 330 or consent of instructor. Philosophical consideration of deductive systems.

- \*484. **Philosophy of Language (3) F 1981 Guerriere, Johnson, McGowan, Spangler**  
Prerequisites: Six units of philosophy or consent of instructor. Philosophical thought about language and meaning.

- \*490G. **Special Topics-Logic and Semantics (3) F,S Faculty**  
in the *Schedule of Classes*. May be repeated for credit to a maximum of nine units with different topics. Graduate students must also enroll in one unit of Philosophy 599.

## Studies in Value and Evaluation

305. **Philosophy in Literature (3) F Clark, Massey, Ringer**  
Intensive exploration of philosophical ideas in selected literature.

351. **Conflicts in Political Philosophy (3) F Ringer**  
Intensive study of the philosophies underlying Communism, Socialism, Facism, and Democracy; in particular, the origins of differing views of justice, freedom, individualism, and the State.

**\*352. Philosophy of Law (3) S Kim, Ringer**

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.

**360. Ethics and Ecology (3) F,S Massey, Quest**

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. Philosophy of Art and Beauty (3) F Massey, Quest**

Discussion of central problems in aesthetics, such as the possibility of objectivity in criticism, modern and traditional definitions of a work of art, truth and meaning in the fine arts, natural beauty and its relationship to excellence in music, architecture, etc.

**463. Ethical Theory (3) F,S Andre, McGowan, Quest, Ringer, Strickler**

Prerequisite: Three units of philosophy. In-depth discussion of such issues as obligation, responsibility, social justice, and personal ideals.

**\*490H. Special Topics-Value and Evaluation (3) F,S Faculty**

Seminar study of a selected topic in value or evaluation. Sample topics: Theories of Value, Freedom and Determinism. Specific topics will be announced in the *Schedule of Classes*. May be repeated for credit to a maximum of nine units with different topics. Graduate students must also enroll in one unit of Philosophy 599.

**\*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) F Faculty**

Prerequisite: One course in logic or consent of instructor. Selected issues in logic and language. Topics which might be offered include: paradoxes, the history of logic, analytic and synthetic truth, meaning, the limits of formal logic, induction and scientific method. May be repeated for a maximum of six units, subject to suitable variation in course content.

**572. Problems in Theory of Value (3) F Faculty**

Examinations of selected problems in which evaluation provides a central topic of concern, such as those issues commonly discussed in aesthetics, political philosophy or the philosophy of law. May be repeated for a maximum of six units, subject to suitable variation in course content.

**599. Graduate Tutorial (1-3) F,S Faculty**

Corequisite: Enrollment in an upper division philosophy course (a different course for each unit of 599) and consent of the instructor. Supervised independent study. Seniors with a grade point average of B or better may enroll with consent of Department. May be repeated for credit to a maximum of six units.

**620. Seminar in History of Philosophy (3) F,S Faculty**

Prerequisite: Consent of instructor. Close study of selected subjects in the history of philosophy. The original language may be required. May be repeated with different subjects for a maximum of nine units.

**630. Seminar in Philosophy of Religion (3) F Faculty**

Prerequisite: Philosophy 330 or consent of instructor. Critical examination of selected issues, figures and movements. May be repeated for a maximum of six units, subject to suitable variation of topic.

**640. Seminar in Metaphysics (3) F,S Faculty**

Prerequisite: Philosophy 442 or consent of instructor. Supervised research and discussion on recurrent metaphysical problems and systems on the basis of selected works. May be repeated for a maximum of six units, subject to suitable variation of course content.

**663. Seminar in Ethics (3) F,S Faculty**

Prerequisite: Philosophy 463 or consent of instructor. Systematic examination of topics (such as human rights, pleasure) and theories (such as utilitarianism, contract theory) which are central to moral reasoning. May be repeated for a maximum of six units, subject to suitable variation in course content.

**680. Seminar in Epistemology (3) F,S Faculty**

Prerequisite: Philosophy 482 or consent of instructor. May be repeated for a maximum of six units, subject to suitable variation in course content.

**681. Seminar in the Philosophy of Science (3) F Faculty**

Current issues in the philosophy of science. May be repeated for a maximum of six units, subject to suitable variation in course content.

**690. Seminar in Selected Topics of Current Interest (3) F,S Faculty**

Presentation, discussion and critical evaluation of advanced work (which may include original research of faculty and graduate students) in selected topics of current interest to professional philosophers. If demand for more than one subject exists, multiple sections may be given in any one semester. May be repeated for a maximum of six units, subject to suitable variation of course content.

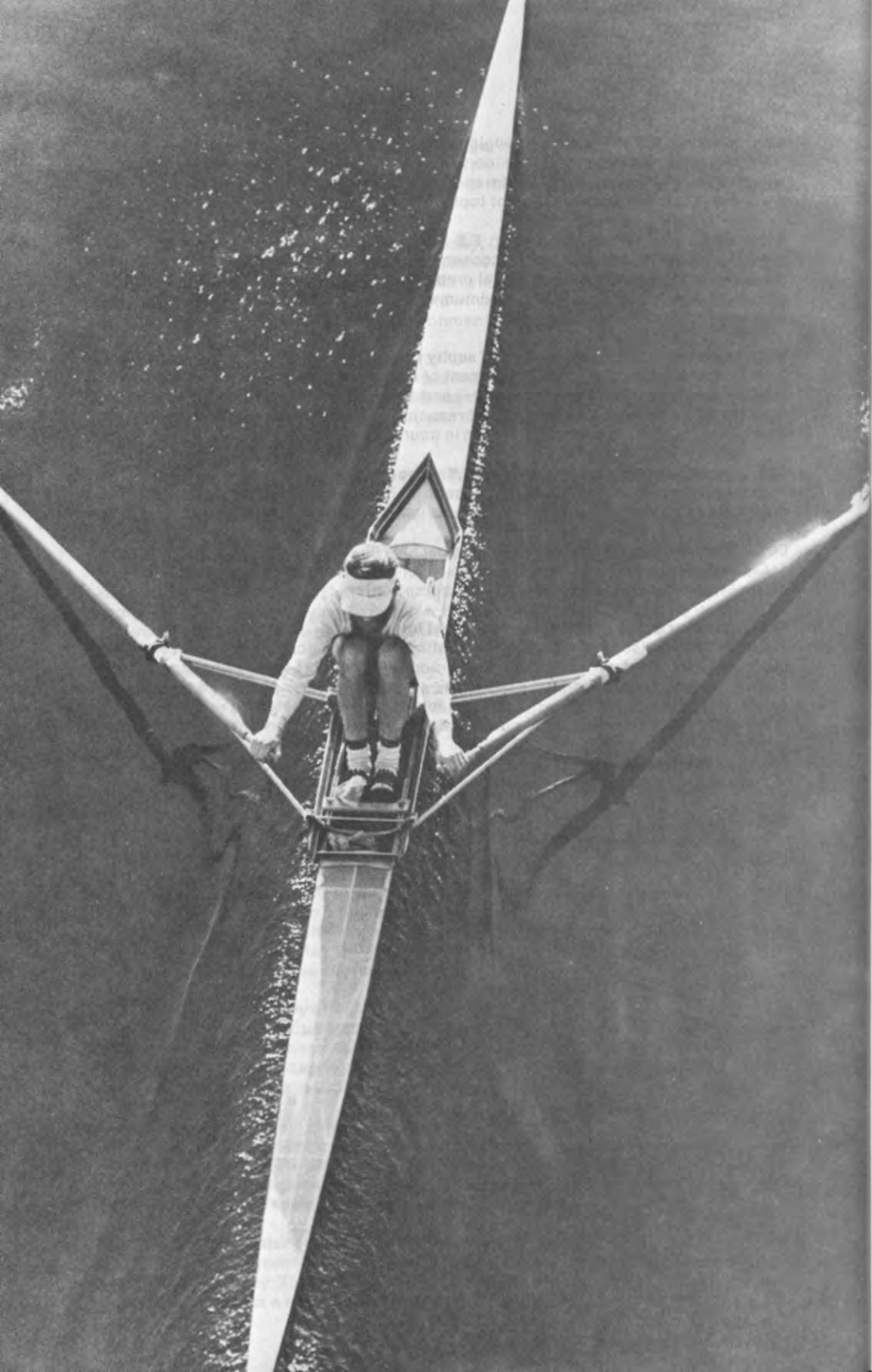
**697. Directed Research (1-3) F,S Faculty**

Prerequisite: Consent of the student's adviser.

**698. Thesis (2-4) F,S Faculty**

Prerequisite: Consent of graduate adviser. Preparation and completion of a thesis in philosophy.





# Physical Education

## School of Applied Arts and Sciences

**Department Chair:** Dr. Marguerite A. Clifton.

**Emeriti:** Warren J. Boring, James L. Comer, Corinne J. Crogen, Walter Crowe, Marcel J. DeLotto, Dorothy L. Erickson, Earl C. Kidd, Carl E. Klafs, Jack E. Montgomery, Don F. Reed, C. Patricia Reid, Sarah Royal, L. LaVonne Stock.

**Professors:** Arnheim, Bartlett, Clifton, Deatherage, DuPont, Fornia, Griffith, Lyon, McConnell, Mastropaolo, Miller, Morgan, Patterson, Rose, Sandefur, Schaafsma, Sinclair, Souter, Wuesthoff.

**Associate Professors:** Campbell, Edmondson, Franklin, Gonsalves, Grimmatt, Lindsey, Redmon, D. Toohey, M. Toohey, Wurzer.

**Assistant Professors:** Husak, Leach.

**Credential Advisers:** Ms. Barbara Franklin, Dr. Betty Rose Griffith, Dr. Tom Morgan, Dr. David Wurzer.

**Academic Advising Coordinators:**

Physical Education: Mr. Ken Bartlett.

Athletic Training: Mr. Keith Freeseemann.

Adapted Physical Education: Mr. Fred Rodriguez.

Community Physical Fitness: Mr. Ed Souter.

Corrective Therapy: Dr. Ruth Lindsey.

Outdoor Studies: Ms. Madeleine Lundin.

Psychomotor Therapy: Dr. Daniel Arnheim.

Physical Education Minor-Concentrations: Mr. Charles R. Sandefur, Dr. Dixie Grimmatt.

Subsumed Subjects-Dance, Health Science: Mr. Charles R. Sandefur.

**Graduate Adviser:** Dr. Dorothy Deatherage.

The Department of Physical Education offers programs designed (1) to meet the professional needs of prospective physical educators for various occupational roles, and (2) to provide a desirable program of elective activities in general education. Courses are offered which satisfy requirements of the following: (1) the bachelor of arts degree with a major in physical education; (2) physical education major leading to a teaching credential; (3) a minor in concentrations in physical education; (4) Adapted Physical Education Single Subject Emphasis Credential; (5) certificate programs; (6) 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 of physical activities in sport, dance, aquatics and fitness. Credit 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 in physical education must complete core courses and proficiency requirements plus track courses in a specific area or areas. In meeting the requirements of one major, the department offers 13 specialized tracks for study which permit students to focus on preparation for one or more specific occupational roles. The physical education major student must show skill proficiency and knowledge in six personal performance activities distributed over four categories offered in the CSULB lower division program prior to graduation. Waiver of personal performance activity courses requires successful completion of a written and a practical examination in the courses 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 waiver or waiver by examination is available in the department office. No upper division course may be waived by substitution or examination without department petition.

#### **Major in Physical Education for the Bachelor of Arts Degree (code 2-1201)**

##### **Core of Courses Required of all students:**

*Lower Division:* Physical Education 154 and five additional physical activity units distributed over four categories (aquatics, dance, individual martial arts, outdoor studies, team sports) selected from Physical Education 100-186; 215, 232.

*Upper Division:* Physical Education 300, 301, 312, 315, 335. Every major student is required to be proficient at a 3.5 level in fitness and in five additional physical activities over three categories (see categories listed above). Selection of activities for proficiencies must be different from those selected to satisfy the six units for meeting the lower division requirement in the major with the exception of fitness.

**Select one of the following Tracks to complete the requirements for the Major:**

##### **Adapted Track**

*Lower Division:* Physical Education 275, select three units from physical activities — Physical Education 100-186, and establish a proficiency of 3.5 or better in seven activities which are different from the core proficiencies.

*Upper Division:* Physical Education 316, 320, 380, 381, 387, 388, and select one course in Applied Theory from Physical Education 350-369.

##### **Aquatics Track**

*Lower Division:* Physical Education 121, 122, 126, 131, 132, and 123 or 128.

*Upper Division:* Physical Education 321, 358, 458; Recreation 401, 425; select six units from Physical Education 245, 346, Recreation 430.

##### **Athletic Training Track**

*Lower Division:* Physical Education 210.

*Upper Division:* Physical Education 307, 308, 309, 363, 380, 407, 483, EDSS 300.

##### **Coaching Track**

*Lower Division:* Physical Education 275; select three units from Physical Education 100-186; and establish a proficiency of 3.5 or better in seven activities which are different from the core proficiencies.

*Upper Division:* Physical Education 307, 320; select one Applied Theory course from 350-369; 380, 381; select three units from 450-469; 483.

##### **Corrective Therapy Track**

*Lower Division:* Physical Education 210.

*Upper Division:* Physical Education 309, 320, 387, 316 or 483, 489E; Psychology 345, 370.

##### **Developmental Dance Track**

*Lower Division:* Physical Education 180, 181, 182, 184, 185, 275, establish a proficiency of 3.5 or better in seven activities which are different from the core proficiencies.

*Upper Division:* Physical Education 320, 360, 361 or 376, 380, 381, 483; select one non-dance Applied Theory course 350-369. (The Department of Dance, School of Fine Arts, offers the Bachelor of Arts degree in Dance.)

##### **Developmental Track**

*Upper Division:* Physical Education 316, 415, 416, 417, 483; Human Development 307; select five units from Physical Education 276, 320, 375, 387.

##### **Elementary School Physical Education Track**

*Lower Division:* Physical Education 275, 276; select three units from 100-186; and establish a proficiency of 3.5 or better in seven activities which are different from the core proficiencies.

*Upper Division:* Physical Education 320, 375, 376, 380, 381, 316 or 483; select one Applied Theory course from 350-369.

##### **Fitness Track**

*Lower Division:* Physical Education 210, 211.

*Upper Division:* Physical Education 309, 363, 405, 489D; Recreation 425; Home Economics 430.

##### **Gerontology Track**

*Lower Division:* Physical Education 210, 275.

*Upper Division:* Physical Education 309, 320, 425, 489G; Gerontology 400; Biology 401.

##### **Outdoor Studies Track**

*Lower Division:* Physical Education 210; select four units from 101, 113, 116, 119, 131, 153; select six units from 243, 245, Recreation 430.

*Upper Division:* Physical Education 346, 447, 448.

##### **Secondary School Physical Education Track**

*Lower Division:* Physical Education 275; select three units from 100-186; and establish a proficiency of 3.5 or better in seven activities which are different from the core proficiencies.

*Upper Division:* Physical Education 320, 380, 381, 483; select eight units from Applied Theory courses 350-369 (limit of two units per activity category).

##### **Sociocultural Studies Track**

*Lower Division:* Physical Education 230.

*Upper Division:* Physical Education 336, 338, 437, 439; select six units from Black Studies 167, Political Science 215, 220, Philosophy 312, Psychology 354, Anthropology 411.

##### **Minor — Concentration in Physical Education — Coaching**

A minimum of 21 units as follows: Physical Education 232, 303, 307; a minimum of 11 units from the following: Physical Education 312, 363, 364, 450, 451, 452, 453, 454, 455, 456, 458, 465, 466, 468, 489B.

##### **Minor — Concentration in Physical Education — Elementary**

A minimum of 18 units as follows: Physical Education 275, 276, 303, 312, 315, 316, 376, 380, 381.



**Minor in Physical Education-Teaching**

This minor is designed for those students who are striving for an add-on to their existing single-subject credential. With the completion of this minor and a successful score on the National Teacher Examination in Physical Education, the University will recommend the add-on certification in Physical Education. The other two minors listed (Elementary and Coaching) *do not* qualify as add-ons to the single-subject credential.

A minimum of 23 units as follows: Physical Education 303, 312, 380; a minimum of 12 units from the following, four units of which must be upper division:

*Lower Division:* Physical Education 100, 102, 106, 108, 114, 125, 144, 145, 147, 148, 149, 150, 151, 154, 155, 161, 164, 165, 167, 169, 171, 172, 240.

*Upper Division:* Physical Education 350, 352, 353, 355, 356, 358, 361, 365, 369, 483.

**Adapted Physical Education Single Subject Emphasis Credential**

This program is designed for those students interested in working with the handicapped. Completion of this credential authorizes the teaching of physical education and remedial physical education. The credential requires a minimum 3.0 GPA in all credential coursework and approval by the Adapted Physical Education Committee. Requirements include a Bachelor's degree with a major in Physical Education and admission to the Adapted Physical Education Single Subject Emphasis Credential program.

A minimum of 19 units as follows: Physical Education 315, 316, 320, 387, 388, 489A; and Educational Psychology 350. Students are strongly encouraged to elect one or more courses from the following: Psychology 307, 461; and Physical Therapy 374.

**Certificate Programs**

The Department of Physical Education offers five different certificate programs each of which is related to a special emphasis provided in the curriculum. All certificate programs are open to any student enrolled in the University who meets general admission requirements as follows:

1. Completion of 30 hours of course work.
2. A minimum 2.75 GPA in all completed course work.
3. Admission application and approval by a faculty committee in the certificate program selected.

**Community Physical Fitness Certificate**

Specific emphasis is placed on preparation of physical directions responsible for programs in the Y.M.C.A., Y.W.C.A., commercial health clubs, public/private fitness and sport centers and industry.

**Requirements**

1. Certification in cardiopulmonary resuscitation and advanced first aid.
2. Course work (32 units as follows): Physical Education 211, 303, 309, 363, 489D; Home Economics 430; Recreation 312, 421, 425; three units selected from Journalism 270, Psychology 351, Speech Communication 434 and Sociology 336; and three units selected from Accounting 202, Human Resources Management 360, 361; Management 421 or Quantitative Systems 130.

**Outdoor Studies Certificate**

This program is designed to develop leaders who can provide safe and challenging situations for individuals seeking self-fulfilling experiences in outdoor environments. The program of study will enable the student to acquire appropriate knowledge and skills, and to develop a personal philosophy reflecting understanding and concern for the protection of the environment and safety of participants in outdoor activities.

**Requirements**

1. Certification in cardiopulmonary resuscitation and first aid.
2. Course work (28 units as follows): Physical Education 101, 113, 116, 119, 121, 122, 131, 153, 240, 243, 245, 346, 447; two courses selected from the following: Recreation 317, 430, 495 or Physical Education 448.

**Pre-Athletic Training Certificate**

This program is designed to assist the student in acquiring a foundation of knowledge and skills necessary for providing prevention and care of athletic injuries, and the administration of athletic training programs in public and private schools, colleges, universities and professional sport teams. Individuals who wish to pursue certification by the National Athletic Trainers' Association must complete additional requirements. Information concerning specific requirements for admission to the NATA program may be obtained from the Department of Physical Education.

**Requirements**

1. Certification in cardiopulmonary resuscitation and first aid.
2. Course work: (25 units as follows): Physical Education 300, 301, 307, 308, 309, 363, 483, 489C; Home Economics 430.

**Pre-Corrective Therapy Certificate**

This program is designed to enable the student to acquire a foundation of knowledge and skills which will assist the individual in qualifying for admission to the Professional Corrective program if desired. Individuals who wish to pursue certification by the American Corrective Therapy Association must complete additional requirements. ACTA certification will qualify the therapist to provide therapeutic physical activities in rehabilitation clinics, hospitals, schools, universities, convalescent centers, camps and recreation centers for the handicapped. Information concerning specific requirements for admission to the Professional Corrective Therapy program leading to ACTA certification may be obtained from the Department of Physical Education.

**Requirements**

1. Certification in cardiopulmonary resuscitation and first aid.
2. Course work (26 units as follows): Physical Education 303, 309, 316, 320, 387, 483, 489E; Health Science 210; Psychology 346, 370.

**Psychomotor Therapy Certificate**

This program is designed to assist the student in acquiring a foundation of knowledge and skills in sensori-motor performance. Students will achieve proficiency in the organization and conduct of programs for children with special movement problems.

**Requirements (30 units as follows):**

Physical Education 275, 303, 315, 316, 320, 381, 415, 417, 489A or 489F; two courses selected from Educational Psychology 461, Psychology 361, Recreation 484, 491.

**Master of Arts Degree with a Major in Physical Education (code 5-1201)**

The Department of Physical Education offers graduate study leading to the master of arts degree in physical education. Through curricular flexibility the student may pursue individualized goals of either comprehensive study of specialization within the scope of the profession. All candidates are required to complete a core of courses which includes a thesis or project or oral and written comprehensives. Detailed information about the general curriculum option and the



specialization option is contained in the *Handbook for the Master of Arts Degree in Physical Education*, available upon request from the department office.

Each applicant should request a copy of the official transcript of all college course work be sent to the graduate adviser of physical education in addition to the copies required by the Office of Admissions and Records.

#### Prerequisites

1. A bachelor's degree from an accredited institution with a major in physical education substantially equivalent to this University, or;
2. A bachelor's degree with a minimum of 24 units of upper division courses equivalent to those required of a major in physical education at this University. (Course equivalency in 1. or 2. above will be determined by the adviser of the major department and the department graduate adviser following conference with the student and review of official transcripts. All deficiencies must be removed prior to advancement to candidacy.)
3. An overall undergraduate grade point average of 2.50 or better and an upper division physical education major grade point average of 2.75 or better.

#### Advancement to Candidacy

1. Refer to the general University requirements for advancement to candidacy.
2. Successful completion of the qualifying examination (Graduate Record Examination). If the minimal score (25th percentile) is not attained on the Verbal portion of the GRE, a satisfactory grade in an Advanced English Composition course is required to compensate for the deficiency.
3. A graduate program, must have the approval of the candidate's adviser, department graduate adviser and the Director of Graduate Studies and Research, School of Applied Arts and Sciences.

#### Requirements for the Master of Arts Degree

1. A minimum of 30 units with at least 24 units of 500 and/or 600 series courses in physical education, including Physical Education 590, 696, a thesis Physical Education 698, and an oral examination over the thesis.  
or
2. A minimum of 36 units with at least 30 units of 500 and/or 600 series courses in physical education, including Physical Education 590, 695, 696 and an oral and written comprehensive examination.
3. With either option a maximum of six units may be elected outside the major. Specified upper division courses taken after the bachelor's degree may be counted.

#### Activity Courses

##### 100-199. Physical Education Activity (1) Men, Women F,S Faculty

Broad range of physical education activities is 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 General Education Activity classes offered by the Physical Education Department. Classes offered within areas are as follows:

##### Sports and Games (1)

- |                   |                    |
|-------------------|--------------------|
| †100. Archery     | 110. Horsemanship  |
| †101. Backpacking | 111. Ocean Fishing |
| †102. Badminton   | †112. Racketball   |

- |                             |                            |
|-----------------------------|----------------------------|
| 103. Angling-Hunting Skills | †113. Rock Climbing        |
| 104. Bowling                | †114. Tennis               |
| 105. Dry Land Skiing        | 115. Frisbee               |
| †106. Fencing               | †116. Mountaineering       |
| †107. Fencing-Sabre         | 117. Winter Mountaineering |
| †108. Golf                  | 118. Wilderness Survival   |
| 109. Handball               | †119. Cross Country Skiing |

##### Aquatics (1)

- |                             |                            |
|-----------------------------|----------------------------|
| 120. Rowing                 | 127. Synchronized Swimming |
| †121. Sailing               | 128. Water Polo            |
| †122. Scuba                 | 129. Water Skiing          |
| †123. Advanced Lifesaving   | 130. Water Volleyball      |
| 124. Surfing                | †131. Canoeing             |
| †125. Swimming              | 132. Springboard Diving    |
| †126. Swimming Conditioning |                            |

##### Fitness Activities (1)

- |                                |  |
|--------------------------------|--|
| †140. Aerobic Dance            | †148. Karate                           |
| 141. Bicycling                 | †149. Self Defense                     |
| 142. Bicycle Aerobics          | †150. Rhythmical Gymnastics            |
| 143. Bicycle Racing            | †151. Weight Training and Conditioning |
| †144. Fitness and Conditioning | †152. Yoga                             |
| †145. Gymnastics               | †153. Orienteering                     |
| †146. Jogging                  | 154. Physical Fitness                  |
| †147. Judo                     | 155. Wrestling                         |

##### Team Sports (1)

- |                                 |                                    |
|---------------------------------|------------------------------------|
| †160. Baseball                  | 168. Slow Pitch                    |
| †161. Basketball                | †169. Softball                     |
| 162. Beach Volleyball           | 170. Team Handball                 |
| 163. Bicycling-Beach Volleyball | 171. Track and Field               |
| 164. Field Hockey               | †172. Volleyball                   |
| †165. Flag Football             | 173. Volleyball-Badminton-Swimming |
| †166. Rugby                     | 174. Lacrosse                      |
| †167. Soccer                    |                                    |

##### Recreational Dance (1)

- |                                     |                                       |
|-------------------------------------|---------------------------------------|
| †180. Creative Movement             | 184. Recreational Free Style Movement |
| †181. Folk Dance                    | 185. Social Dance                     |
| †182. Recreational Classic Movement | 186. Square Dance                     |
| †183. Recreational Dance Workshop   |                                       |

##### Sport Studies (1-3)

- |                          |                         |
|--------------------------|-------------------------|
| 191. Why Exercise?       | 198. Special Activities |
| †193. Fitness for Living | †199. Special Studies   |
| †197. Special Topics     |                         |

##### 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

† courses approved for General Education requirement

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 64 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.

#### 203. 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. First Aid and CPR (2) F, S Faculty

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. This course is designed to prepare the student to pass the Red Cross certifying exams in first aid and CPR.

#### 211. Introduction to Community Physical Fitness (2) F, S Faculty

Introduction to community physical fitness, leadership, management and skill proficiency. (Lecture, laboratory.)

#### 215. Career Perspectives in Human Movement (1) F, S Bartlett, Edmondson, Souter

An overview of human movement including professional preparation and employment opportunities. Orientation to current programs and proficiency requirements. Students entering the physical education major are required to enroll in this course their first semester of study.

#### 230. Sports Appreciation (3) F, S Faculty

Introduction to the study of sport as a social institution in American society.

#### 232. Sociocultural Dimensions of Sport and Human Movement (3) F, S Stock, D. Toohey

Sociological and psychological correlates of human movement.

**240. Advanced Swimming and Water Safety (2) F,S Morgan, Wurzer**  
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.

**243. Mountain Environment (3) F Miller**  
Introduction to winter mountaineering skills; study of the mountain environment. An experiential field class. Special fee.

**245. River/Desert Environment (3) S Faculty**  
Introduction to ways of traveling safely on river and in desert environments. Special fee.

**275. Basic Movement (2) F, S Edmondson, Sandefur, Schwartzkopf, M. Toohey**  
A creative and movement oriented analysis of the components of basic human movement with application to games, gymnastics, dance, aquatics and developmental skills commonly experienced and/or taught in the elementary school physical education program.

**276. Fundamental Game Skills (2) S Faculty**  
Analysis and practice of the teaching of fundamental game skills to the elementary school child. (Lecture, activity.)

## 578 Upper Division

**300. Kinesiology (3) F,S Lindsey, Lyon**  
Prerequisites: Biology 202, satisfactory completion of a proficiency exam covering anatomy administered within the first two weeks of this course. Anatomical structure and function, and mechanical principles relating to human motion, including analytical application. (Lecture, laboratory.)

**301. Exercise Physiology (3) F,S Mastropaolo**  
Prerequisite: Biology 207. Basic concepts of immediate and long term physiological responses of the body to the exercise demands experienced in physical education, athletic and physical fitness programs. (Lecture, laboratory.)

**303. Scientific Foundations (4) F Lyon, Mastropaolo**  
Basic information involving human anatomy, kinesiology, physiology, motor learning as related to physical activities. Not open to physical education majors.

**307. Prevention and Care of Athletic Injuries (3) F,S Arnheim**  
Prerequisites: Biology 202, Physical Education 333. Principles and techniques of the prevention and treatment of common athletic injuries. (Lecture, laboratory.)

**308. Advanced Athletic Training (2) S Faculty**  
Prerequisites: Physical Education 300, 307; Biology 202. Study of advanced training techniques, methods and skills required for the evaluation and therapeutic treatment of athletic injuries.

**309. Developmental and Therapeutic Exercise (3) F,S Lindsey**  
Prerequisites: Physical Education 300, 301 or consent of instructor. Survey of principles and techniques of exercises for development or rehabilitation of the body. (Lecture, laboratory.)

**312. Motor Learning (3) F,S Clifton, Husak**  
Prerequisites: Biology 202, 207; Psychology 100. Principles of motor learning in the acquisition of motor skills. (Lecture, laboratory.)

**315. Motor Development (3) F,S Arnheim, Clifton**  
Prerequisite or corequisite: Physical Education 215. Developmental perspective of the factors which contribute to the acquisition of motor control from the period of infancy through adolescence. (Lecture, laboratory.)

**316. Motor Assessment (2) S Clifton, Sinclair**  
Prerequisites: Physical Education 215, 315. A developmental perspective of selection, evaluation and interpretation of standardized and teacher-constructed tests used in assessing the perceptual-motor functions of infants and children with special attention to handicapped individuals. (Lecture, laboratory.)

**320. Adapted Physical Education Programs (2) F,S Arnheim, Lindsey, Souter**  
Organization, administration and techniques utilized in the conduct of adapted physical education classes and programs.

**321. Teaching Aquatic Activities to the Disabled (2) F,S Faculty**  
Prerequisite: Physical Education 320. Theory of teaching adaptations of selected aquatic activities for disabled individuals. (Lecture, activity.)

**335. History of Human Development (3) F,S 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 as they relate to human movement.

**336. The Olympic Movement (3) S Rose, M. Toohey**  
Survey of the Olympic movement. Identification of its trends and functions as a social force throughout the world.

**338. Women in Sport (3) S Edmondson, Miller, M. Toohey**  
Survey of women's historical and contemporary involvement with sport. The social, cultural and developmental implications of sports participation for women.

**346. Wilderness Emergency Care (3) F Faculty**  
Prerequisites: One outdoor studies activity course or equivalent, Physical Education 210. Techniques concerned with wilderness emergencies, including advanced first aid, cardio-pulmonary resuscitation, search and rescue and emergency evacuation methods. (Lecture, laboratory.)

**350. Applied Theory of Basketball (2) F, S Grimmitt, Sandefur**  
Prerequisite: Physical Education 161B or pass the proficiency exam for basketball. Comprehensive analysis of the principles of movement, the motor skills and the strategy concepts used in basketball. (Lecture, activity.)

**352. Applied Theory of Field Hockey (2) F Miller**  
Prerequisite: Physical Education 164B or pass the proficiency exam in field hockey. Comprehensive analysis of the principles of movement and the motor skills used in field hockey. Includes teaching strategies. (Lecture, activity.)

**353. Applied Theory of Soccer (2) F Miller**  
Prerequisite: Physical Education 167B or pass the proficiency exam in soccer. Comprehensive analysis of the principles of movement and the motor skills used in soccer. Includes teaching strategies. (Lecture, activity.)

**355. Applied Theory of Softball (2) F,S Grimmitt, Wuesthoff**  
Prerequisite: Physical Education 169B or pass proficiency exam in softball. Comprehensive analysis of the principles of movement, the motor skills and the strategy concepts used in softball. (Lecture, activity.)



- 356. Applied Theory of Volleyball (2) F,S Grimmatt, Sandefur**  
Prerequisite: Physical Education 172B or pass the proficiency exam in volleyball. Comprehensive analysis of the principles of movement, the motor skills and the strategy concepts used in volleyball. (Lecture, activity.)
- 358. Applied Theory of Aquatics (2) F,S Edmondson**  
Prerequisite: Physical Education 125B or pass the proficiency exam in aquatics. Comprehensive analysis of the principles of movement and the motor skills used in aquatics. Includes teaching techniques and class management. (Lecture, activity.)
- 360. Applied Theory of Recreational Dance Forms (2) F,S DuPont, Griffith**  
Prerequisites: Physical Education 181, 185, 186 or pass the proficiency exams for social, folk and square dance. Comprehensive analysis of the theory and practice of social, folk and square dance. Includes skills analysis, organization, leadership and evaluation of recreational dance forms. (Lecture, activity.)
- 361. Applied Theory of Creative Movement in Physical Education (2) F,S Griffith**  
Prerequisite: Physical Education 180. Comprehensive analysis of the principles of creative movement for physical education majors and minors who will be teaching in the public schools.
- 362. Applied Theory of Self Defense and Combat (2) F,S Edmondson**  
Prerequisite: Physical Education 149. Application of the theory and techniques of self defense and combative movement forms. Content focuses on analysis, teaching techniques and strategies. (Lecture, laboratory.)
- 363. Applied Theory of Fitness and Conditioning (2) F Souter**  
Prerequisite: Physical Education 154. Analysis, practice and assessment in physical fitness and conditioning. Methods, techniques, safety factors, equipment, ergogenic aids, and sex differences are considered in teaching physical fitness and conditioning. (Lecture, activity.)
- 364. Applied Theory of Wrestling (2) F,S Souter**  
Prerequisite: Physical Education 155 or pass proficiency exam in wrestling. A scientific approach to the theoretical and practical application of teaching wrestling. (Lecture, activity.)
- 365. Applied Theory of Gymnastics (2) F,S Bartlett**  
Prerequisite: Physical Education 145B or pass proficiency exam in gymnastics. Comprehensive analysis of the principles of movement and motor skills used in men's and women's gymnastics with the emphasis on methodology and teaching techniques. (Lecture, activity.)
- 366. Applied Theory of Racket Sports (2) F,S Campbell, Deatherage, Grimmatt**  
Prerequisite: Physical Education 114B or pass proficiency exam in tennis, racketball or badminton. Comprehensive analysis of the concepts which deal with teaching and playing tennis, badminton and racketball. (Lecture, activity.)
- 369. Applied Theory of Track and Field/Cross Country (2) F,S Faculty**  
Prerequisite: Physical Education 171B or pass proficiency exam for track and field. Comprehensive analysis of the principles of movement and motor skills used in track and field and cross country. Includes teaching techniques and strategies. (Lecture, activity.)
- 375. Applied Movement Skills for Elementary School Children (2) F Edmondson, M. Toohey**  
Prerequisite: Physical Education 275. Analysis and teaching of advanced movement concepts to elementary school children. (Lecture, laboratory.)

- 376. Dance for Children (2) F Griffith**  
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. Principles, Organization and Management of Secondary School Physical Education (2) F,S Deatherage, M. Miller**  
Corequisite: Education Single Subject 300P. Principles, organization and management of activities taught in secondary schools, including basic teaching strategies. Not open to students with credit in Physical Education 321 or 410.
- 381. Principles, Organization and Management of Elementary School Physical Education (2) F Faculty**  
Prerequisite: Physical Education 275. Corequisite: Education Single Subject 300P. Principles, aims and objectives of physical education in the elementary schools. Observation and practice in the teaching techniques used in elementary school physical education. (Lecture, activity.)
- 387. Physical Activities for Specific Disabilities (3) F Faculty**  
Prerequisites: Physical Education 215, 320. Study of school-centered physical activities and their adaptation for participation by individuals with prevalent congenital, chronic and permanent disabilities affecting motor performance. (Lecture, laboratory.)
- 388. Organization and Class Management for Exceptional Individuals (3) F Arnheim, Sinclair**  
Prerequisite: Physical Education 387. Organization, administration and class management for adapted physical education programs.
- 405. Individualized Programming and Instrumentation for Community Fitness (3) S Mastropaolo, Souter**  
Prerequisites: Physical Education 210, 211, 309, 363. Instrumentation, counseling and individualization of fitness programs for organizations in the private and public sector. (Lecture, laboratory.)
- 407. Management Theory of Athletic Injuries (3) S Faculty**  
Prerequisites or corequisites: Physical Education 300, 307, 308, Biology 202. Theory and management of specific injuries in physical education and athletics, including recognition, treatment and identification of the trends in injury management.
- 415. Perceptual Factors in Motor Development (3) F Clifton**  
Prerequisites: Physical Education 215, 315. Study of selected factors which influence the perceptual motor development and function of the individual. (Lecture, laboratory.)
- 416. Influences on Motor Development: Functional and Dysfunctional Individual (3) S Arnheim, Clifton**  
Prerequisites: Physical Education 215, 315. Study of the factors which influence motor development of the typical and atypical individual.
- 417. Developmental Motor Programs (3) S Clifton**  
Prerequisites: Physical Education 315, 316, 415. Emphasis on perceptual-motor principles in developing physical activity sequential tasks and programs which stimulate and enhance the motor behavior of infants and children. (Lecture, laboratory.)
- 425. Gerokinesiatrics (3) F Lindsey**  
Prerequisites: Biology 202, 207 and Gerontology 400. The rationale, organization and conduct of exercise programs for the older adult. (Lecture, laboratory.)

**433. Behavioral Problems in Physical Education (2) F,S Patterson, Sandefur**  
Psychological factors related to discipline and behavior problems in physical education and athletics.

**437. Human Movement and Culture (3) S Edmondson, M. Toohy**  
Survey of individual self-expression in terms of human movement.

**439. Philosophical Issues in Human Movement (3) F,S M. Toohy**  
Prerequisite: Physical Education 215. Survey of philosophies of leading theorists as they relate to human performance.

**447. Outdoor Studies: Principles and Methods (3) F,S Miller**  
Prerequisite: Completion of a minimum of six units of outdoor studies course work. An investigation of the philosophies, principles and program methods underlying the conduct of outdoor adventure programs.

**448. Outdoor Studies: Leadership Practicum (3) S Miller**  
Prerequisites or corequisites: Physical Education 346, 447. Analysis and practice of the leadership and teaching techniques appropriate to the conduct of outdoor adventure programs.

**450. Theory of Coaching Basketball (1) F,S Grimmitt,**  
Prerequisites: Physical Education 161B, 360. Theories of coaching, principles and organization of interscholastic basketball. (Activity.)

**451. Theory of Coaching Baseball (3) F,S Gonsalves, Wuesthoff**  
Prerequisite: Physical Education 160. Theories of coaching, principles and organization of interscholastic baseball. (Lecture, activity.)

**452. Theory of Coaching Field Hockey (1) S Faculty**  
Prerequisites: Physical Education 164B, 352. Theory and practice, development of tactics, strategies and coaching techniques for field hockey. (Activity.)

**453. Theory of Coaching Football (3) S Faculty**  
Prerequisites: Junior or senior status, consent of instructor. Theories of coaching, principles and organization of interscholastic and intercollegiate football. (Lecture, activity.)

**454. Theory of Coaching Soccer (1) S Faculty**  
Prerequisites: Physical Education 167B, 353. Theory and practice, development of tactics, strategies and coaching techniques for soccer. (Activity.)

**455. Theory of Coaching Softball (1) SS Faculty**  
Prerequisites: Physical Education 169B, 355. Theory and practice, development of tactics, strategies and coaching techniques for softball. (Activity.)

**456. Theory of Coaching Volleyball (1) F Grimmitt, Sandefur**  
Prerequisites: Physical Education 172B, 356. Theory and practice, development of tactics, strategies and coaching techniques for volleyball. (Activity.)

**458. Theory of Coaching Aquatics (1) F,S Faculty**  
Prerequisites: Physical Education 125B, 358. Theoretical and practical application of coaching techniques in swimming and water polo. (Activity.)

**464. Theory of Coaching Wrestling (1) F Faculty**  
Prerequisites: Physical Education 155, 364. Theory and techniques of coaching wrestling in relation to current educational philosophy and intercollegiate rules. (Activity.)

**465. Theory of Coaching Gymnastics (1) F,S Bartlett**  
Prerequisites: Physical Education 145B, 365. Theoretical and practical application of coaching techniques in gymnastics. (Activity.)

**466. Theory of Coaching Tennis (1) S Campbell**  
Prerequisites: Physical Education 114B, 366. Theory and practice, development of tactics, strategies and coaching techniques for tennis. (Activity.)

**467. Theory of Coaching Cross Country (1) F Faculty**  
Prerequisites: Physical Education 171B, 369. Theories of coaching, principles and organization of interscholastic cross country. (Activity.)

**468. Theory of Coaching Running Events (1) F Faculty**  
Prerequisite: Physical Education 369. Theory and practice, development of tactics, strategies and coaching techniques for running events. (Activity.)

**469. Theory of Coaching Field Events (1) S Faculty**  
Prerequisites: Physical Education 171B or pass proficiency examination in track and field, consent of instructor. Coaching theories and principles and organization of interscholastic competition in field events. (Activity.)

**483. 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.

**489. Field Work in Physical Activity Settings (1-3) F,S Faculty**  
Prerequisites: Completion of physical education course requirements for the major track in which field work is taken. Supervised practice in working with individuals or small to large groups in public or private agencies and schools. CR/NC only. May be repeated to a maximum of nine units of credit.

- |  |                                    |
|--|------------------------------------|
| A. Fieldwork in Adapted Physical Education | F. Fieldwork in Corrective Therapy |
| B. Fieldwork in Athletic Coaching          | G. Fieldwork in Motor Development  |
| C. Fieldwork in Athletic Training          | H. Fieldwork in Gerontology        |
| D. Fieldwork in Community Fitness          |                                    |

**\*497. Independent Study (1-3) F,S Clifton**  
Prerequisites: Major or minor in physical education, senior status 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) F,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 and Supervision of Physical Education (3) S Deatherage, Sinclair**  
Prerequisite: Education Single Subject 450P or 450W or equivalent, or teaching experience (including student teaching). Administration and supervision in physical education, including philosophies, principles and practices at the school, city, county and state level.

**523. Curriculum Development and Construction in Physical Education (3) F Wurzer**  
Prerequisites: Education Single Subject 450P or 450W and student teaching (may be taken concurrently). Basic considerations and problems of physical education curricula in secondary schools.

- 533. Scientific Bases for Physical Education (3) F Mastropaolo**  
Prerequisites: Physical Education 300, 301. Advanced concepts of exercise physiology.
- 534. Human Performance Instrumentation (3) F Mastropaolo**  
Prerequisites: Physical Education 300, 301. Fundamentals of instruments used in advanced studies of exercise physiology, kinesiology and biomechanics.
- 535. Exercise Science: Tests and Training (3) S Mastropaolo**  
Prerequisites: Physical Education 300, 301, 534. Scientific aspects of exercise tests and training over an exercise spectrum from anaerobic to aerobic metabolism.
- 538. Motor Dysfunction and Remedial Physical Education (3) F Arnheim**  
Prerequisites: Physical Education 437 or Ed. Psych. 350 or their equivalents. Recognition, analysis, assessment and remediation of movement problems of the exceptional child.
- 573. History of Sport and Physical Education (3) F Miller, M. Toohy**  
Prerequisite: Physical Education 335 or equivalent. Athletics in the ancient world to the rise of modern sports. Historical contribution of different societies on sports from ancient to the modern era and its effect upon physical education in this country.
- 574. Contemporary International Sport (3) F Miller, D. Toohy**  
Investigation of contemporary international sport in various world cultures.
- 577. Sport in U.S. Culture (3) S D. Toohy**  
Analysis of physical activities in U.S. culture. Consideration of the relationships between sports and games and the factors of status, values, environment and cultural change.
- 588. Corrective Therapy Clinical Training I (3) F,S Faculty**  
Prerequisite: Completion of Bachelor's Degree in Physical Education, admission into Corrective Therapy Certificate Program and approval of the Corrective Therapy Coordinator. Didactics taught in the hospital setting; the theory and techniques of corrective therapy. 500 hours of instruction and observation at Long Beach Veterans' Hospital. (Lecture, laboratory.)
- 588L. Corrective Therapy Clinical Training I Laboratory (6) F,S Faculty**  
Corequisite: P.E. 588. Instruction and observation in the Long Beach Veterans' Hospital.
- 589. Corrective Therapy Clinical Training II (3) F,S Faculty**  
Prerequisite: Satisfactory completion of P.E. 588. The theory and practice of corrective therapy techniques in the hospital setting. 500 hours of instruction and observation at the Long Beach Veterans' Hospital. (Lecture, laboratory.)
- 589L. Corrective Therapy Clinical Training II Laboratory (3) F,S Faculty**  
Corequisite: P.E. 589. Instruction and observation in the Long Beach Veterans' Hospital.
- 590. Statistical Analysis and Measurement in Physical Education (3) F,S Deatherage, Sinclair**  
Prerequisites: Secondary Education 421, Education Single Subject 450P or 450W, Physical Education 483 or equivalent. Consideration of the logic and application of statistical inference, sampling theory, correlation, analysis of variance and design of statistical studies. Critical analysis of selected research publications. Required of all master's degree candidates. To be completed within first 12 units of 500-600 series courses.

- 630. Seminar in Motor Learning (3) F Husak**  
Prerequisites: Physical Education 312, 590 and 696 (may be taken concurrently). Identification and analysis of principles and concepts applicable to motor learning in physical education.
- 633. Seminar in Sport Psychology (3) S Faculty**  
Prerequisites: Physical Education 433 and Psychology 100; teaching or coaching experience (including student teaching). Study of psychological theories and concepts and their relationship to human behavior in sport. Sport viewed in the context of the participant, the teacher/coach, the spectator and the entrepreneur.
- 637. Seminar in Adapted Physical Education (3) S Arnheim**  
Prerequisite: Physical Education 437 or equivalent. Organization and conduct of Adapted Physical Education (special and corrective) in the schools and colleges.
- 671. Seminar in Current Trends and Issues in Sport and Physical Education (3) F Forna**  
Current trends, issues and research in physical education and sport.
- 674. Seminar in Philosophical Concepts of Sport and Physical Education (3) S Forna, M. Toohy**  
In depth, critical analysis of philosophical movements affecting physical education with emphasis on practical application and future implications.
- 675. Seminar in Human Movement Theory (3) S M. Toohy**  
Examination of the writings of the major human movement theorists including the aesthetic nature and significance of the human movement experience.
- 680. Seminar in Management Theory of Athletic Injuries (3) S Arnheim**  
Prerequisite: Physical Education 307 or equivalent.
- 683. Seminar in Competitive Sports for Girls and Women (3) F Deatherage, Grimmert, Miller**  
History, philosophy, trends, problems, organization and conduct of competitive sports programs for girls and women.
- 685. Seminar in Athletics (3) S Grimmert, Morgan**  
Experience in the field. Special problems related to the administration of an athletic program including current issues and practices and supervised research in selected areas.
- 695. Seminar in Professional Literature (3) S Deatherage, Forna**  
Prerequisites: Physical Education 590, 696. Critical analysis and synthesis by comparative review of professional literature in physical education. Required of all candidates not electing thesis option.
- 696. Research Methods (3) F,S Clifton, Griffith, Sinclair**  
Prerequisites: Physical Education 590, undergraduate major in physical education or related field. Methodological approaches to contemporary problems in physical education; research design and reporting; bibliography. Required of all master's degree candidates. To be completed within the first 12 units of 500-600 series courses.
- 697. Directed Studies (1-3) F,S Deatherage**  
Prerequisites: Physical Education 590, 696, advancement to candidacy. Research in an area of specialization under the direction of a faculty member.
- 698. Thesis (1-4) F,S Deatherage**  
Prerequisites: Physical Education 590, 696, advancement to candidacy. Planning, preparation and completion of an approved thesis.



**699. Seminar in Selected Topics (3) F,S Faculty**

Prerequisites: Teaching experience and graduate standing. Intensive study of salient problems of current professional importance to experienced physical educators. May be repeated (with selection of a second topic) for a maximum of six units. Topics to be announced in the *Schedule of Classes*.

# Physical Therapy

## School of Applied Arts and Sciences

**Department Chair:** Ray J. Morris.

**Professors:** Bok, D.D. Williams.

**Associate Professors:** Morris, Nielsen.

**Undergraduate Advisers:** Mr. Ray J. Morris, Dr. David D. Williams (EOP and Minority).

The physical therapy curriculum is a competency based program designed to enable students to become an integral part of the medical rehabilitation team as a professional health care provider. Appropriate science, professional, medical and clinical experiences are provided. Successful completion of the degree requirements leads to a bachelor of science degree in physical therapy and 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.

The comprehensive curriculum plan includes a sequence of integrated student-oriented learning experiences to enhance attainment of terminal competencies. As a professional health care provider the physical therapist will be able to:

1. determine the physical therapy needs of any patient referred;
2. design a physical therapy plan of care;
3. implement a physical therapy plan of care;
4. evaluate, interpret and respond to changes in physiological state;
5. identify and recommend solutions for architectural barriers;
6. interact with patients and families;
7. demonstrate safe, ethical, and legal practice;
8. demonstrate appropriate and effective communication skills;
9. participate in the design and management of a physical therapy service;
10. apply basic educational concepts of learning theories;
11. apply basic principles of the scientific method;
12. assume responsibility for professional growth;
13. identify activities between governmental, health and educational institutions;
14. identify issues and problems in the health care delivery system.

### Requirements for Admission

The number of applicants to the physical therapy professional program exceeds the number that can be accepted. For this reason physical therapy applicants are subject to criteria in addition to those required for admission to the University. Admission is on a competitive basis and is limited to undergraduate California residents. The following sections detail the admittance requirements.

### Admission to the Professional Program

In addition to meeting the University's academic standards for admission in good standing, the applicant must:

1. Declare physical therapy as a major (if not declared prior to admission).
2. Complete and file a Supplemental Application with the Department.
3. Complete a minimum of 75 semester units (including all general education requirements and prerequisites).
4. Complete Physical Therapy 210 and Physical Therapy 374 at this campus. (Opportunities to enroll in Physical Therapy 210 and 374 vary according to demand and resources.)
5. Earn a minimum grade of B in all prerequisite courses. (See below.)
6. Submit transcripts of all academic work attempted.
7. Submit a minimum of four letters of recommendation. (Consult with Department for specifics.)
8. Be a California resident.

In determining the eligibility of an applicant for admission to the program, the admission committee will consider:

1. All college/university academic work completed.
2. The grade point average in all prerequisite/science courses. The following sciences and their semester unit values are the CSULB science prerequisites to the professional program.

General Biology 200 (3 units)  
 Statistics course (any statistics course) (3 units)  
 Human Anatomy 202 (3 units)  
 Physics 100 AB or 105, 106 (8 units)  
 Human Physiology 207 (3 units)  
 General Psychology 100 (3 units)  
 Introductory Chemistry 200 (4 units)  
 Abnormal Psychology 370 (3 units)  
 Physical Therapy 210 (2 units-CSULB)  
 Psychology of Disability 374 (3 units-CSULB)  
 Bio organic Chemistry 300 (4 units)  
 Computer Studies 200 (3 units)

3. Related work/volunteer experience (must be documented).
4. The state of physical/emotional wellness in order to carry out the typical responsibilities of a therapist.
5. An interview of the applicant (at the discretion of the selection committee).
6. 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.

#### Critical Dates:

1. February 15: Supplemental physical therapy application and support documents (transcripts, references, etc.) due for Fall admissions.
2. May: Notice of Admission decision for Fall acceptance.
3. September 15: Supplemental physical therapy application and support documents (transcripts, references, etc.) due for Spring admission.
4. December: Notice of admission for Spring acceptance.

#### 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 admission to clinical practice.
2. Earn a minimum of 2.0 (C) in each professional course attempted.
3. Complete successfully a competence inventory examination.

#### Bachelor of Science Degree in Physical Therapy (57 units) (code 3-1225)

Lower Division: Physical Therapy 210.

Upper Division: Biology 307, Physical Therapy 301, 302, 325, 350, 351, 353, 360, 371, 374, 380, 430, 431, 440, 446, 460, 472, 474, 475, 480, 485AB, 490 and 499.

#### Lower Division

#### 210. Orientation to Health Care Professions (2) F, S Morris, Nielsen, Faculty

Prerequisite: Consent of instructor. Orientation to health care professions.

#### Upper Division

#### 301. Anatomy and Kinesiology I (4) F, S Williams, Faculty

Prerequisites: Admission to the physical therapy professional program and consent of instructor. Normal human anatomy and kinesiology with emphasis on the upper extremity, neck, head and trunk. Also includes histology and the mechanical analysis of musculoskeletal disabilities. (Lecture 2 hours, laboratory 6 hours.)

#### 302. Anatomy and Kinesiology II (4) F, S Williams, Faculty

Prerequisites: Admission to the physical therapy professional program and consent of instructor. Continuation of P.T. 301 with an emphasis on the normal anatomy and kinesiology of the lower extremities, pelvis. Also includes gait, locomotion, analysis of movement and pathomechanics of disability. (Lecture 2 hours, laboratory 6 hours.)

#### 325. Human Development for Therapists (2) F, S Morris, Faculty

Prerequisites: Admission to physical therapy professional program and consent of instructor. Human development from conception through changes accompanying the aging process with emphasis on normal development of the sensorimotor system. Also includes normal and abnormal reflex development, assessment of the developmental level, sensory, perceptual and psychosocial development.

#### 350. Principles of Physical Therapy I (2) F, S Morris, Faculty

Prerequisites: Admission to the physical therapy professional program and consent of instructor. The recognition, specification and performance of definitive physical therapy assessment procedures, including treatment planning process. (Lecture 1 hour, laboratory 3 hours.)

#### 351. Principles of Physical Therapy II (3) F, S Faculty

Prerequisites: Admission to the physical therapy professional program and consent of instructor. Principles and practice in basic patient care, including massage, hydrotherapy, traction, intermittent compression, wrapping, bandaging and aseptic technique. (Lecture 2 hours, laboratory 3 hours.)

#### 353. Principles of Physical Therapy III (3) F, S Bok, Morris

Prerequisites: Admission to the physical therapy professional program and consent of instructor. Principles and practice in electrotherapy and assessment procedures for neuromuscular disorders. (Lecture 2 hours, laboratory 3 hours.)

#### 360. Neuroanatomy and Neurophysiology for Therapists I (2) F, S Williams

Prerequisites: Admission to the physical therapy professional program and consent of instructor. Survey of human neuroanatomy and principles of normal neurophysiology. (Lecture 1 hour, laboratory 3 hours.)

#### 371. Clinical Medicine I (3) F, S Williams

Prerequisites: Admission to the physical therapy professional program and consent of instructor. Survey of general pathology with emphasis on the role of the physical therapist in patient care.

**374. Psychosocial Aspects of Disability I (3) F, S Rabin**

Prerequisite: Psychology 100, 370 (may be taken concurrently) and consent of instructor. Survey of the psycho-social, emotional and cultural reactions to disease and disability.

**380. Clinical Practice I (1-4) F, S Bok, Morris, Nielsen, Faculty**

Prerequisites: Admission to the physical therapy professional program and consent of instructor. Initial supervised pre-clinical experience in designing, implementing and managing a physical therapy plan of care, including recognition, specification and performance of definitive physical therapy assessment procedures.

**430. Principles of Physical Therapy IV (4) F, S Morris, Nielsen**

Prerequisites: Admission to the physical therapy professional program and consent of instructor. Principles and practice in designing, implementing and managing a physical therapy plan of care, including therapeutic exercise design, assistive devices and the recognition, specification and performance of definitive physical therapy assessment procedures. (Lecture 3 hours, laboratory 3 hours.)

**431. Principles of Physical Therapy V (3) F, S Morris, Nielsen**

Prerequisites: Admission to the physical therapy professional program and consent of instructor. Principles and practice in advanced therapeutic exercise, including the recognition and performance of definitive physical therapy assessment procedures. (Lecture 2 hours, laboratory 3 hours.)

**440. Administration in Physical Therapy (2) F, S Faculty**

Prerequisites: Admission to the physical therapy professional program and consent of instructor. Design and management of a physical therapy service by applying the administrative principles of planning, organization, supervision, control and evaluation. Also includes the relationship of physical therapy to other health agencies and professions in the health care delivery systems.

**446. Learning and Counseling for Therapists (3) F, S Faculty**

Prerequisites: Admission to the physical therapy professional program and consent of instructor. Application of basic educational concepts of learning theories in designing, implementing and evaluating learning experiences in order to teach patients and families, and to design and implement community education in-service programs. Also includes clinical education and counseling principles and practice.

**460. Neuroanatomy and Neurophysiology for Therapists II (2) F Williams**

Prerequisites: Admission to the physical therapy professional program, Physical Therapy 360 and/or consent of instructor. Continuation of Physical Therapy 360 with emphasis on the clinical disorders of the central and peripheral nervous system and the neurophysiological basis of patient care. Also includes appropriate assessment procedures. (Lecture 1 hour, laboratory 3 hours.)

**472. Clinical Medicine II (3) F, S Bok, Morris, Faculty**

Prerequisites: Admission to the physical therapy professional program, Physical Therapy 371 and consent of instructor. Pathology, clinical course, medical and/or surgical management and the role of the physical therapist in patient care, including the recognition, selection and performance of definitive physical therapy assessment procedures.

**474. Psychosocial Aspects of Disability II (2) F, S Faculty**

Prerequisites: Physical Therapy 374, consent of instructor. The interpersonal relationships between patient and therapist relating to stages of adjustment, behavioral management techniques, communication skills, pain management, sociocultural differences, and to special age groups from children to geriatric.

**475. Research Methods (3) F, S Morris, Faculty**

Prerequisites: Any basic course in statistics and admission to the physical therapy professional program. Introduction to basic principles in physical therapy research including research planning, research designs, measurement, clinical research designs, and library research.

**480. Clinical Practice II (1-4) F, S Nielsen, Faculty**

Prerequisites: Admission to the physical therapy professional program and consent of instructor. A continuation of P.T. 380 with emphasis on advanced principles and practice in designing, implementing and managing a physical therapy plan of care.

**485A,B. Clinical Practice III (3,3) F, S Nielsen, Faculty**

Prerequisites: Completion of all professional courses with a minimum passing grade of 2.0 (C) and consent of instructor. Supervised clinical experience (internship) in designing, implementing and managing a physical therapy plan of care in a variety of clinical settings for 18-40 hour weeks.

**490. Independent 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.

**499. Special Topics (1-3) F, S Faculty**

Prerequisites: Admission to the physical therapy professional program and consent of instructor. Identification and investigation of current topics in selected areas of physical therapy. Topics to be announced in the *Schedule of Classes*. May be repeated for a maximum of six units of credit with change of topic.



# Physics

## School of Natural Sciences

**Department Chair:** Dr. Sema'an I. Salem .

**Emeritus:** Olaf P. Anfinson.

**Professors:** Appleton, Ayers, Buchner, Chen, Chow, Fredrickson, George, Hutcherson, Hu, Lerner, Luke, Roberts, Salem, Scalettar, Schechter, Schultz, Scott, Shen, Woollett, Yano.

**Associate Professors:** Alexandrov, Anwar, Ellason, Munsee.

**Undergraduate Adviser:** Dr. S.I. Salem .

**Graduate Adviser:** Dr. A.F. Yano.

**Graduate Committee:** Anwar, Schechter, Scott, Shen, Yano.

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### **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, 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, 484, 486. The remaining units are to be chosen from Physics 311, 330, 360, 380, 410, 420, 434, 444, 451, 453, 454, 457, 470, 481, 482, 484, 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, 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 nine units which may not include Physics 360, 406 or 494.

#### **Master of Arts Degree with a Major in Physics (code 5-7668)**

The Department of Physics-Astronomy offers graduate study leading to the master of arts degree. A student may choose to obtain the degree either through a six unit thesis (Option I) or through a comprehensive examination (Option II). Active areas of research are: experimental solid state, spectroscopy, nuclear physics and plasma physics; theoretical solid state, nuclear structure physics, many body problem, high energy physics and plasma physics. Additional information can be obtained from brochures available at the department office.

A limited number of teaching and graduate assistantships are available to students working on the master's degree. Normally the assistant, under the supervision of a faculty member, conducts the laboratory sessions of lower division courses.

Application should be made to the graduate adviser of the Department of Physics-Astronomy.

#### **Prerequisites**

1. A bachelor's degree with a major in physics, or;
2. A bachelor's degree with at least 24 units of upper division physics. (Students deficient in undergraduate preparation must take courses to remove these deficiencies with or without credit toward the degree at the discretion of the department graduate adviser.)

#### **Advancement to Candidacy**

1. The student must fulfill the general University requirements for advancement to candidacy and must satisfactorily pass a screening examination administered by the Department Graduate Committee. Detailed information and copies of previous examinations are available from the department office. All prospective candidates are expected to take this examination during the first semester in which they are registered for courses acceptable for credit toward the master's degree.
2. A student must have a B average or better in nine units of physics applicable toward the master's degree of which at least three units are at the graduate level.

#### **Requirements for the Master of Arts**

##### **Option I**

1. A minimum of 30 units of upper division and graduate courses including Physics 540A, 550A, 560A and 695.
2. Not more than 9 units in related fields may be applied to the 30 unit total.
3. A thesis (Physics 698).

##### **Option II**

1. A minimum of 30 units of upper division and graduate courses including Physics 510, 540A, 550A, 560A, 695 and any two of the following: Physics 540B, 550B, 560B.
2. Not more than 6 units in related fields may be applied to the 30 unit total.
3. Passing a comprehensive examination.

#### **Master of Science Degree with a Major in Physics (code 6-7668)**

##### **Metals Physics**

Metals physics is a specialized program which provides an intensive study of the solid state field from both the theoretical and experimental viewpoints. It is intended for students having background in physics or engineering or a closely allied field.

##### **Prerequisites**

1. A bachelor's degree in physics or engineering or a closely allied major which includes courses comparable (as determined by the Metals Physics Advisory Committee) to the following physics courses: mechanics, Physics 310; electronics, Physics 380; thermodynamics and kinetic theory, Physics 320; electricity and magnetism, Physics 340A; quantum physics, Physics 450, and solid state physics, Physics 470.

##### **Advancement to Candidacy**

1. Students must fulfill the general University requirements for advancement to candidacy and must satisfy the Metals Physics Advisory Committee and the Graduate Committee as to the adequacy of their preparation by taking the Physics Department screening examination. This will be done in the first or second semester in which they are registered for courses acceptable for credit toward the M.S., except in individual cases to be determined by the Metals Physics Advisory Committee.
2. A student must have a B average or better in nine units of physics applicable toward the master's degree, of which at least three units are at the graduate level.

##### **Requirements for the Master of Science**

Thirty units of upper division and graduate courses including:

1. Physics 540A, 550A, 560A, 695, 697 (three units).
2. Six units of electives from among the physics graduate courses and Physics 420, 444, 451, and 490. These 400 series courses are to be taken with prior consent of the Metals Physics Advisory Committee.
3. A thesis (Physics 698), six units.

##### **Concurrent and/or Summer Enrollment in Another College**

Students who wish to take course work in a community or another college to meet curricular requirements while enrolled as undergraduates in the School of Natural Sciences 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.

**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. Not open to students with credit in Physics 105, 106, 105E or 106E. (Lecture 3 hours, laboratory 3 hours.)

**103. Introduction to Experimentation (1) F, S Munsee**

Prerequisite: Physics 100A or 104 (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, Roberts**

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. General Physics 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. General Physics 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.)

**115. Physics for the Health Professions (4) F, S Munsee, Schechter**

Prerequisite: One year of high school mathematics. Introduction to physics with physiological applications. Emphasis on those areas of physics which are most directly applicable to life processes. (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.)

**154. Modern Physics and Light (3) 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 153 or 230. (Lecture 3 hours.)

**Upper Division****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, 1982 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 Scott, Woollett**

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 Scott, Shen**

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 Schultz**

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.



## Upper Division

**304. Observational Astronomy (1) F,S Schultz**

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.)

**112. Introduction to the Physical Sciences (3) F,S George**

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.)

## Graduate Division

## Physics

**500. Research Methods (1) F,S Yano**

Prerequisite: Consent of instructor. Directed study of the literature about research methods in physics. May be repeated once but only one unit may be applied to the requirements for the master of science.

**510. Graduate Mechanics (4) F Munsee, Scott**

Prerequisite: Physics 310. Variational principles, Lagrange's equations, Hamilton's equations, canonical transformations, Hamilton-Jacobi theory, relativistic mechanics and small oscillation theory.

**540A,B. Graduate Electricity and Magnetism and Electrodynamics (4,3) S,F Alexandrov, Schechter, Yano**

Prerequisite: Physics 340B. Boundary-value problems, multipoles, Maxwell's equations, wave guides, magneto-hydrodynamics, covariant formalism, radiation theory, collisions, and relativistic theory of the electron.

**550A,B. Quantum Mechanics (4,3) S,F Hu, Scalettar, Scott, Yano**

Prerequisite: Physics 451. Dirac transformation theory, unitary transformations, Schrodinger equation, harmonic oscillator, angular momentum, hydrogen atom, scattering, perturbation theory, identical particles, symmetry operations, relativistic one particle equations, applications.

**551A,B. Quantum Electronics and Laser Physics (3,3) F,S 1981-82 and alternate years Scalettar**

Prerequisite: Physics 550A or consent of instructor. Interaction of radiation with matter, relaxation processes, polarization, diamagnetic and paramagnetic susceptibilities, nonlinear properties, spontaneous and simulated emission, paramagnetic Maser amplifiers, Maser oscillators, the laser, laser system pumping, semiconductor lasers, electro-optic effects, non-linear optics, Raman emission, Brillouin scattering. (Lecture 3 hours.)

**554. Nuclear Physics (3) F Yano**

Prerequisite: Physics 550A. Deuteron problem, nucleon-nucleon potential, shell model, nuclear models, nuclear reactions, elementary particles, weak interactions, strong interactions.

**560A,B. Methods of Mathematical Physics (4,3) F,S Roberts, Scalettar, Yano**

Prerequisites: Mathematics 370A,B or equivalent. Linear vector spaces, eigenvalue problem, functions of a complex variable, special functions, properties and methods of solving partial differential equations of physics, integral equations, tensor analysis and group theory.

**570. Solid State Physics (3) F Anwar**

Prerequisite: Physics 451. The modern theory of solids from the standpoint of quantum mechanics. Binding in solids, energy bands, electrical thermal and magnetic properties, imperfections, and semiconductors.

**694. Seminar in Special Topics (1) F,S Faculty**

Prerequisite: Graduate standing. Study of research papers and research methods in selected topics. If demand for more than one subject exists, multiple sections may be given in any one semester. May be repeated; only one unit of credit may be applied toward requirements for the master's degree.

**695. Colloquium (1) F,S Schechter**

Prerequisite: Graduate standing. Weekly meetings for presentation and discussion of current research in physics. All graduate students are expected to attend each semester they are enrolled in the University. Credit to be obtained only for one semester.

**697. Directed Research (1-3) F,S Faculty**

Theoretical and experimental problems in physics requiring intensive analysis.

**698. Thesis (1-6) F,S Faculty**

Planning, preparation, and completion of an acceptable thesis in partial fulfillment of the requirements for the master's degree. Credit to be obtained only upon formal submission of thesis.

**Physical Science****512A,B. Modern Physical Science (3,3) F,S Faculty**

Prerequisites: One semester course in both modern physics and organic chemistry. Selected topics in modern physical science illustrating the trends in science and the contributions and limitations of classical and modern theories.

**696. Research Methods (3) F,S Faculty**

The definition and methods of solution of problems in this field with emphasis on the descriptive method of research and the use of the library. Required of all master's degree candidates.

**698. Thesis (1-4) F,S Faculty**

Planning, preparation and completion of a thesis related to this field. Limited to graduate students who have taken or are taking Physical Science 696. Optional.

# Political Science

## School of Social and Behavioral Sciences

**Department Chair:** Dr. Leroy C. Hardy.

**Professors:** Chawla, Cohen, Delorme, Hardy, Hayes, Horn, Kacewicz, Leiter, Lien, Marsot, Soe, Stevens, Trombetas, Urquhart.

**Associate Professors:** Ridder, P. Schmidt, R. Schmidt, Scott, Sherain, Steiner.

**Credential Adviser:** Dr. Irving Ahlquist (History Department).

**Undergraduate Adviser:** Dr. Leroy C. Hardy.

**Graduate Adviser:** Dr. Robert L. Delorme.

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 33 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, 455, 459, 461.

Political Theory: 301, 302, 303, 304, 306, 308, 407.

Public Law: 314, 315, 318, 412, 414, 415.

Politics and Policy Formation: 320, 322, 326, 327, 328, 420, 422, 423, 424, 428.

Public Policy and Administration: 331, 334, 336, 338, 340, 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 in Political Science which may include 494, 497, 498 and 499.
- (d) Six units of upper division course work in the School of Social and Behavioral Sciences outside the Department of Political Science, chosen in consultation with a political science adviser. Courses selected to fulfill this requirement are in addition to those selected to fulfill the requirement of any General Education category.

**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, 367, 455, 459, 461.  
Political Theory: 301, 302, 303, 304, 306, 308, 407.  
Public Law: 314, 315, 318, 412, 414, 415.  
Politics and Policy Formation: 320, 322, 326, 327, 328, 420, 422, 423, 424, 428.
- (b) Twelve units from the area of public policy and administration: 331, 334, 336, 338, 340, 346, 348, 442, 447, 448, 449 (331 and 449 are required).
- (c) Six units of electives in political science which may include 494, 497, 498 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, 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 chosen in consultation with an adviser.

**Master of Arts Degree with a Major in Political Science (5-8536)**

The Department of Political Science offers graduate study leading to the master of arts degree. The student is urged to become acquainted with the general requirements of the University and the specific requirements of the department as stated in this *Bulletin*. Important supplementary information about the steps leading to the master's degree in political science is contained in the *Handbook for Graduate Students*, which is available from the department upon request.

Before or soon after entering the program, the graduate student will normally consult with the department graduate adviser. The graduate adviser will, if necessary, assist the student in the selection of a faculty academic adviser and two other committee members.

After beginning graduate study, the student is responsible for obtaining the consent of three full-time members of the department's graduate faculty to serve on her/his graduate committee; one of these committee members, the chairman, will be drawn from the student's major field of concentration and will serve as the

student's academic adviser while two others will be drawn from the second and third field of concentration respectively. The student should seek to have established her/his committee prior to the completion of the first semester or the first 12 units of work as a graduate student in political science unless an exception is granted by the Department Graduate Committee.

**Prerequisites**

1. A bachelor's degree with a major in political science (deficiencies will be determined by the faculty adviser in consultation with the graduate committee of the department), or:
2. A bachelor's degree with 24 units of upper division political science comparable to those required of a major in political science at this University (deficiencies will be determined by the faculty adviser in consultation with the graduate committee of the department).
3. A 3.0 grade point average in political science courses taken as an undergraduate. A student whose grade point average is less than 3.0 may appeal to the Department Graduate Committee for a waiver of this requirement. Normally, satisfactory completion of the Graduate Record Examination (verbal and mathematical aptitude tests) will be required for those students seeking waivers of the 3.0 requirement.

**Advancement to Candidacy**

1. Satisfy the general requirements of the University for advancement to candidacy.
2. In order to be recommended for advancement to candidacy, students must obtain the written approval of their master's degree program of course work by their committee adviser. The program must then be submitted to the department graduate adviser.

**Requirements for the Master of Arts**

1. The student's graduate program in political science must consist of not less than 30 units of acceptable upper division and graduate courses, of which at least 24 units must be concentrated in three fields of political science and of which the remaining six units may be taken either in political science or in another field of study closely related to the candidate's educational objectives and chosen in conference with the student's faculty adviser. The three fields of concentration in political science must be chosen from the following: international relations, comparative politics, political theory, public law, politics and policy formation, public policy and administration. Normally at least one graduate seminar must be completed in each of the three fields. For those following the comprehensive examination option (see no. 3) the 30-unit graduate program must include a minimum of 18 units in the 600 series of political science, of which three units will be given for Political Science 697 (Directed Research). For those following the thesis option (see no. 3), the graduate program must include a minimum of 16 units in the 600 series in political science, of which four units will be given for Political Science 698 (Thesis).
2. In addition to completing the above requirements, the graduate student must complete (or show that she/he has completed) *one* of the following requirements: a minimum of two semesters of an acceptable foreign language taken at the college level with a grade of B or better; or a demonstrated reading knowledge of an acceptable foreign language; or a minimum of two semesters of acceptable course work in statistics with a grade of B or better; or a demonstrated proficiency in quantitative methodology. The foreign language or statistics or quantitative methodology requirement shall be determined by the student's graduate committee in consultation with the student.



3. Finally, the graduate student must complete *one* of the following requirements: a comprehensive written examination in each of three fields of political science and an oral examination; *or* a thesis and an oral examination on the thesis. Following completion of the written examinations or submission of the thesis, the student's committee may waive the requirement for an oral examination.

#### 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. Culture and 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.

#### 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 emergent 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, Nietzsche, 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.

##### \*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 Law: 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 Law: 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.) Introduction to 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 Hardy, 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.

**\*428. (441.) Political Behavior (3) F Hardy, 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 P. Schmidt, 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 P. Schmidt**

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 R. Schmidt**

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 P. Schmidt**

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 Faculty**

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.

**\*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 Faculty**

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 Marsot**

Developments in government, parties, process of elections and political ideology of China. Not open to students with credit in Political Science 341.

**\*364. (345.) Society and National Politics of India (3) F Chawla**

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**

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.

**\*455. Comparative Revolutionary Change (3) S, 1983 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 Marsot**

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**

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****500. Political Science: Scope and Methods (3) S Faculty**

Development of political science as an academic discipline; its substantive content and methodological range; relation to social sciences and the natural sciences; research design and implementation; techniques of data and course analysis. Required of all graduate students in first or second semester of graduate studies.

**587. Administration of Health Care (3) F Faculty**

Examination of the organization operation and administration requirements of hospitals, health maintenance organizations, public clinics and public health departments. Not open to students with credit in Political Science 487.

**600. Seminar in International Politics (3) F, S Chawla, Cohen, Ridder, Steiner**

Intensive study of selected topics in international politics such as nationalism, imperialism, judicial settlement of international disputes, collective security. Each semester a different topic will be stressed. May be repeated for a maximum of six units.

**610. Seminar in Comparative Government (3) F, S Chawla, Delorme, Kacewicz, Marsot, Soe, Trombetas**

Intensive study of the political institutions and policies of selected foreign governments. Emphasis on political parties and contemporary governmental policy. May be repeated for a maximum of six units.

**620. Seminar in Political Theory (3) F, S Scott, Urquhart**

Prerequisite: An upper division course in political theory. Analytical and critical examination of the major concepts of political theory. Special attention will be directed to the writings of 20th century political theorists. May be repeated for a maximum of six units.

**630. Seminar in Public Law (3) F, S Hayes, Lien, Sherain**

Prerequisite: A political science course in the field of public law. Topics in constitutional development, regulatory adjudication and comparative administration of justice. May be repeated for a maximum of six units.

**640. Seminar in American Government (3) F, S Hardy, Lien, Stevens**

Intensive study of topics and problems in American government. May be repeated for a maximum of six units.

**660. Seminar in Public Administration (3) F P. Schmidt, R. Schmidt**

Topics and problems in the field of public administration. Problems of governmental organization and management as they relate to specific governmental units of administration. May be repeated for a maximum of six units.

**697. Directed Research (1-3) F, S Faculty**

Prerequisite: Consent of Department Chair. Required of master's candidates who are preparing for the comprehensive examinations.

**698. Thesis (1-4) F, S Faculty**

Planning, preparation and completion of thesis for the master's degree.

# Pre-Health Professions 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.

The University offers preprofessional programs for dentistry, medicine, osteopathy, optometry, pharmacy, podiatry and veterinary medicine. Following are recommendations and requirements of universities and professional dental and medical schools in this vicinity. Information about the other health professions may be acquired from the Pre-Health Professions Office in the School of Natural Sciences, FO5-104.

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 Pre-Health Professions 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.

## 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.





# Psychology

## School of Social and Behavioral Sciences

**Department Chair:** Dr. Sally J. Haralson.

**Emeriti:** Jack I. Bradley, James N. McClelland, Charles F. Mason.

**Professors:** Binder, Carlson, Creamer, Danson, DeHardt, Fiebert, Fiebiger, Green, Hanson, Haralson, Heintz, Hommel, Hupka, Jarrett, Jung, Kapche, Linden, Lindner, Newman, Nygaard, Petersen, Raine, Resch, Rhodes, Thayer, Towner.

**Associate Professors:** Binder, Colman, Connor, Jorgenson, Lowenthal, Nummedal, Padilla, Singer, Smith.

**Assistant Professors:** Dowell, Flores de Apodaca, Rebok.

**Credential Adviser:** Dr. Paul Petersen.

**Undergraduate Adviser:** Dr. Len Hommel.

**Graduate Adviser:** Dr. Gilbert J. Padilla.

The psychology curriculum is designed to provide undergraduate students with a broad background in the principles of psychology. Three options are provided for the major in psychology: the *General Option* for those who wish to emphasize psychology in their liberal arts education, the *Applied Option* for those who wish to acquire knowledge and skills in the application of psychology, and the *Research Option* for those preparing for graduate study in psychology. The student may change from one option to another at any time.

The General Option 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 Option 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 Option 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.

The Department of Psychology offers graduate study leading to the master of arts degree in psychology and the master of science degree with options in community-clinical psychology and industrial psychology. In each program a basic core, including a thesis, is required, and there is opportunity for additional work in areas of special interest. Clinical electives are available in the master of arts program. The master of arts program prepares students for doctoral study and provides a general background in psychology. The two master of science programs prepare students for professional work; some graduates have entered doctoral programs.

The department has wide and varied offerings and is housed in specially-designed facilities, including laboratories in physiological, social-personality,

human factors and other areas of psychology. The community clinic operates both on and off campus.

Admission to all three programs is limited. *Application must be made directly to the graduate adviser.* For spring admission, application to the master of arts program and to the master of science, industrial psychology option must be completed by November 1; for fall admission, by April 25. For fall admission to the master of science, community-clinical option, application must be completed by March 1.

A limited number of graduate assistantships are available. Students accepted into the program will receive an application. Work-study assignments are available in the department, but must be applied for through the University Financial Aids Office one or two semesters prior to obtaining the assignment.

### Major in Psychology for the Bachelor of Arts Degree

*Lower Division:* Psychology 100, 200 and 210, Mathematics 100, Psychology 241 or a comprehensive 3-unit course in anatomy and physiology or in physiology alone.

*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, 361; and additional courses for one of the following three options:

*General Option (code 2-8130):* 15 units of electives;

*Applied Option (code 2-8131):* Psychology 310 and 314, one course from Psychology 375, 381, 473, and two courses from Psychology 405, 406A,B, 415, 416, 418, 471, 475, 481;

*Research Option (code 2-8135):* Psychology 310, Psychology 401 or 402, and two courses from Psychology 433, 437; 441 or 445, 451 or 456, 461.

An additional upper division requirement for all options is a minimum of six upper division units in addition to General Education unit requirements to be chosen with permission of an adviser from courses in the School of Social and Behavioral Sciences, or another School if more appropriate to the student's area of concentration.

### Minor in Psychology

A minimum of 20 units which must include: Psychology 100, 200, 210; nine upper division psychology units including at least one course from Psychology 331, 332, 333, 336, 337, or 341; and at least one course from 351, 356 or 361.

### Admission to Graduate Programs

Write directly to the Psychology Department for an application for admission to the graduate program in psychology. Acceptance by the department is contingent on (a) grade point average based on last 60 units of undergraduate work available at time of application; (b) Graduate Record Examination scores on the verbal and quantitative sections and on the advanced psychology test; and (c) three letters of recommendation. All application materials, including complete transcripts, GRE scores and letters of recommendation, must be received by the *department graduate adviser* before April 25 for the fall semester and November 1 for the spring semester for the master of arts and master of science with the industrial option. Deadline for the master of science with the community-clinical option is March 1 for the fall semester; there are no spring semester admissions.

### Master of Arts Degree with a Major in Psychology (code 5-8130)

#### Prerequisites

1. A bachelor's degree with a major in psychology, or:
2. A bachelor's degree with a major other than psychology and 24 units of upper division psychology substantially equivalent to those required for the baccalaureate degree at this University, including Psychology 310 and one of the following: 433, 437, 441, 445, 451, 456 or 461; and 18 units of upper division psychology.

3. Six units of college level work in chemistry, physics, biology or mathematics as approved by the graduate adviser. No more than three of the six units may be in approved mathematics courses.

#### Advancement to Candidacy

1. During the first semester in the M.A. program students must file a program of studies in psychology, approved by the graduate adviser, indicating the courses which will be taken to complete the M.A. degree.
2. Recommendation for advancement to candidacy by the department is prerequisite for all 600 level courses. Prior to registration in every 600 level course, the student must obtain an admission slip from the graduate adviser showing prerequisite fulfillment and that advancement to candidacy has been recommended.
3. See the general University requirements.

#### Requirements for the Master of Arts

The student must complete, as a graduate student, 30 units of upper division and graduate courses exclusive of Psychology 499 with a minimum of 24 units in psychology including the following (if not taken previously as an undergraduate student or to fulfill the 24 unit prerequisite background):

1. Psychology 310 and one of the following: 433, 437, 441, 445, 451, 456 or 461; 411 or 412; two of the following: 331, 332, 333, 337, 341; and one of the following: 351, 356 or 361, or equivalents.
2. A minimum of 21 units in graduate psychology (not including Psychology 697 and including only three units of Psychology 678) including 696C; one course chosen from Psychology 631, 632, 634 or 637; one course chosen from Psychology 651, 656, or 661; Psychology 698 (thesis, six units).
3. Completion of all requirements as established by the M.A. Committee.
4. A written comprehensive examination.
5. With the graduate adviser's approval, a maximum of six units from related areas may be substituted for six of the 30 units.
6. An oral examination on the thesis.

### Master of Science Degree with a Major in Psychology (code 6-8134)

#### Community-Clinical Option

##### Prerequisites

1. A bachelor's degree with a major in psychology or a major in a related field and 24 units of upper division psychology or equivalent.
2. A personal interview by a selection committee.

##### Advancement to Candidacy

1. During the first semester in the M.S. Community-Clinical program students must file a program of studies in psychology, approved by the graduate adviser, indicating the courses which will be taken to complete the M.S. degree.
2. Recommendation for advancement to candidacy by the department is prerequisite for all 600 level courses. Prior to registration in every 600 level course, the student must obtain an admission slip from the graduate adviser showing prerequisite fulfillment and that advancement to candidacy has been recommended.
3. See the general University requirements.

#### Requirements for the Master of Science, Community-Clinical Option

1. The student must complete, as a graduate student, a minimum of 22 units of graduate courses including 672A,B and 673A,B and a minimum of 30 units of graduate and upper division courses (exclusive of Psychology 499).



2. Six units of upper division or graduate courses may be outside of psychology to be selected in consultation with the graduate adviser.
3. A thesis or project with an oral examination (Psychology 698, thesis, six units).
4. Completion of all requirements as established by the M.S.C.C. Committee.

#### Industrial Option (code 6-8132)

##### Industrial Psychology Advisory Council

The Industrial Psychology Advisory Council functions as an important interface between the industrial community served by the University and the department. Its purpose is to assist as appropriate in the effective implementation of the department's master of science (industrial option) program. Membership of this council is as follows:

Mr. Donald E. Bott, City of Santa Ana  
 Dr. Richard F. Gabriel, Douglas Aircraft Company  
 Dr. Gloria L. Grace, System Development Corporation  
 Mr. Robert D. Joyce, Innovative Management, Inc.  
 Mr. Roger Keast, City of Long Beach  
 Mr. Terry L. Lantz, City of Garden Grove  
 Mr. Alan H. Locher, Jensen Marine Company  
 Mrs. Betty J. Long, California State University, Long Beach  
 Mr. Bradford F. Spencer, Spencer and Associates  
 Mr. Frank E. Washburn, Garrett AiResearch Manufacturing Company of California

##### Prerequisites

1. A bachelor's degree with a major in psychology, or:
2. A bachelor's degree with a major other than psychology and 24 units of upper division psychology substantially equivalent to those required for the baccalaureate degree at this University, including Psychology 310 and an upper division laboratory course or equivalent.

##### Advancement to Candidacy

1. During the first semester in the M.S. Industrial program students must file a program of studies in psychology, approved by the graduate adviser, indicating the courses which will be taken to complete the M.S. degree.
2. Recommendation for advancement to candidacy by the department is prerequisite for all 600 level courses. Prior to registration in every 600 level course, the student must obtain an admission slip from the graduate adviser showing prerequisite fulfillment and that advancement to candidacy has been recommended.
3. See the general University requirements.

##### Requirements for the Master of Science, Industrial Option

The student must complete a minimum of 30 units of upper division and graduate courses, with a minimum of 24 units in psychology, including:

1. If not taken previously as an undergraduate student or to fulfill prerequisites: Psychology 315, 381, 411 or 412, 418, 481 and 486.
2. A minimum of 21 units in graduate level courses including Psychology 586, 681, 688, 698; two courses chosen from Psychology 515, 527, 581, 696l.
3. An oral examination covering the thesis.
4. A maximum of six units from related areas may be substituted for six of the 30 units with a maximum of three of these applicable to the 21-unit graduate-level course requirement, with the adviser's approval.
5. Substitutions for required courses are permitted if a petition to substitute is approved by the MSI Program Committee prior to enrollment in the course.

#### 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.)

##### 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. (Lecture 3 hours.)

#### Upper Division

##### \*310. Intermediate Statistics (4) F, S Faculty

Prerequisite: Psychology 210 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, Kapche, Lindner

Prerequisites: Psychology 200 and 210. 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 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. (Lecture 3 hours.)

##### \*331. Sensation and Perception (3) F, S Colman, Haralson

Prerequisite: Psychology 200. Basic phenomena of the senses, their physiological correlates and integration in complex perceptual judgments. (Lecture 3 hours.)



**\*332. Cognition (3) F, S Hanson, Jung, Smith**

Prerequisite: Psychology 200. 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 3 hours.)

**\*333. Psychology of Learning (3) F, S Danson, Fiebiger, Nygaard, Padilla, Smith**

Prerequisite: Psychology 200. Human and animal learning with special emphasis on experimental evidence and techniques. (Lecture 3 hours.)

**\*336. Psychology of Emotion (3) S Hupka, Jung, Thayer**

Prerequisite: Psychology 200. Discussion of research, theories and coping mechanisms of human emotions. (Lecture 3 hours.)

**\*337. Psychology of Motivation (3) F Hupka, Jung, Thayer**

Prerequisite: Psychology 200. 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. 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 3 hours.)

**\*343. Comparative Psychology (3) F Haralson**

Prerequisite: Psychology 200. Phylogenetic differences in animal behavior leading to the development of psychological principles. (Lecture 3 hours.)

**\*345. Psychophysiology (3) F Green, Haralson**

Prerequisite: Psychology 200. Physiological activity occurring in humans during particular behavioral states. Theoretical problems and methodological approaches. (Lecture 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. (Lecture 3 hours.)

**\*353. Humanistic Psychology (3) F, S Fiebiger, Linden, Singer**

Prerequisite: Psychology 100. Examination of theories, findings and methods derived from humanistic psychology, including encounter groups, meditation, sex roles, ESP, dreams, death and application of humanistic approaches to social institutions, education and psychotherapy. (Lecture 3 hours.)

**\*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. (Lecture 3 hours.)

**\*355. Therapist and Experimenter Effects (3) F DeHardt**

Prerequisites: Psychology 200 and 351 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. (Lecture 3 hours.)

**\*356. Personality (3) F, S Jung, Kapche, Lindner, Raine, Thayer**

Prerequisite: Psychology 100. Discussion of theories, research and assessment in personality. (Lecture 3 hours.)

**\*359. Self-Observation and Self-Development (3) F, S Fiebiger, 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, Rebok**

Prerequisite: Psychology 100. Psychological problems of human development considered with reference to data from studies of children and lower animals. (Lecture 3 hours.)

**\*365. Psychology of Adult Development and Aging (3) S Faculty**

Prerequisite: Psychology 100. Methodological and theoretical problems and issues in the study of developmental change processes from young adulthood through old age. Topical coverage includes physical-motoric, social, physiological and intellectual aspects of behavioral functioning. (Lecture 3 hours.)

**\*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. (Lecture 3 hours.)

**\*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. (Lecture 3 hours.)

**\*381. Industrial and Organizational Psychology (3) F, S Jarrett**

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. (Lecture 3 hours.)

**\*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 3 hours.)

**\*401. History and Systems of Psychology (3) F 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 3 hours.)

**\*402. Contemporary Systematic Psychology (3) S Fiebiger, Nygaard**

Prerequisites: Six upper division units in psychology. Examination of 20th century systematic formulations and general theoretical approaches. (Lecture 3 hours.)

**\*403. Mathematical Models of Behavior (3) S Hanson**

Prerequisite: Psychology 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, DeHardt, Hommel, Singer**

Prerequisites: Psychology major, junior or senior standing, Psychology 200, 210, 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. May be repeated to a total of six units.

**406A,B. Application in Psychology (3) F Faculty**

Prerequisite: Consent of instructor. Students are expected to take 406B during the spring semester. Students apply for the 405A-B sequence during the spring of the academic year before the courses are taken. Theoretical and laboratory training in the topic areas are followed by applied work with clients, schools, businesses, etc., as appropriate. Students are supervised by the course instructor.

**\*408. Applying Psychology to Teaching Psychology (3) F, S Danson, Nygaard, Smith**

Prerequisites: Nine units of upper division psychology, Psychology 200, 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.)

**\*411. Statistical Design and Analysis of Experiments (3) F, S DeHardt, Newman, Resch, Rhodes**

Prerequisite: Psychology 310 or 412 or consent of instructor. Simple and complex designs. Statistical inference in economical experimentation and in scientific inference and prediction. (Lecture 3 hours.)

**\*412. Multivariate Statistical Analysis (3) F, S Hanson, Newman, Towner**

Prerequisite: Psychology 310 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 3 hours.)

**\*415. Vocational Testing (3) F, S Faculty**

Prerequisite: Psychology 314 or 315 or Educational Psychology 420. 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. (Lecture 3 hours.)

**\*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 310 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, Thayer**

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. (Lecture 3 hours.)

**\*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. (Lecture 3 hours.)

**\*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. (Lecture 3 hours.)

**\*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. (Lecture 3 hours.)

**\*459. Social Psychology of Homosexuality (3) 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.) (Lecture 3 hours.)

**\*461. Research in Developmental Psychology (3) F Nummedal**

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, 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.)

**\*473. Introduction to Clinical Psychology (3) F, S Binder, Connor, Linden, Raine**

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. (Lecture 3 hours.)

**\*475. Interviewing and Case Study Methods (3) F, S Fiebert**

Prerequisite: Psychology 314. Study and development of the clinical techniques of observation, case history and the interview. (Lecture 3 hours.)

**\*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. (Lecture 3 hours.)

**\*490. Advanced Topics in Psychology (3) F, S Faculty**

Prerequisite: One 300-level course in the subject matter of the course. Advanced study of selected topics in one basic area of psychology, e.g., cognition and learning, emotion and motivation, physiological, social, personality or developmental. May be repeated with different topics to a maximum of nine units. See *Schedule of Classes* for subjects being offered during a given semester.

**\*495. Ethical and Legal Issues in Psychology (3) F Binder**

Prerequisite: Any 300-level psychology course. Ethical principles in human and animal research and in applied areas of psychology. Emerging legal issues in the fields of forensic psychology, behavior modification, criminal justice and clinical practice will be discussed.

**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) S Rhodes, Towner**

Prerequisite: Psychology 315. Consideration of problems in the construction of tests for personnel selection, educational screening, personality assessment, aptitude estimating, and measurement of academic achievement. Practice in the development of tests. (Lecture 2 hours, laboratory 2 hours.)

**520. Instrumentation in Psychology (3) S Green**

Prerequisites: Two upper division laboratory courses in psychology. Representative methods, techniques and apparatus requirements for selected areas of laboratory investigation. (Discussion 2 hours, laboratory 3 hours.)

**527. Human Factors (3) F Creamer**

Prerequisite: Psychology 481 or 486. Application of personnel, testing, organizational and engineering psychology to man-machine systems. Emphasis on a systems approach to the design, development and retrofitting man-machine systems for optimal human use. Special consideration of development and use of human factors handbooks. Not open to students with credit in Psychology 627.

**541. Techniques of Physiological Psychology (3) S Green**

Prerequisites: Psychology 341 and 343. Development of physiological methods and animal surgical procedures in the study of behavior. (Discussion 1 hour, laboratory 6 hours.)

**554. Attitude and Opinion (3) F Carlson**

Prerequisites: Psychology 221A,B, 351. The nature and correlates of attitudes, opinions, and related psychological processes. Project experience in the development and use of measurement techniques.

**573. Clinical Psychology (3) F, S Binder, Kapche, Linden, Raine**

Prerequisite: Psychology 473, consent of instructor. Consideration and evaluation of clinical assessment, psychotherapeutic processes and current trends in clinical psychology.

**574. Individual Intelligence Testing (4) F, S Lindner, Revie, Rhodes**

Prerequisites: Psychology 315, consent of instructor. Practice in administration and interpretation of the Stanford-Binet and Wechsler individual tests. Students will administer practice tests to adults and children, be observed for proficiency and test clinic cases. Not open to students with credit in Psychology 474. (Lecture 3 hours, laboratory 3 hours.)

**577. Research in Community and Clinical Psychology (3) S Binder, Dowell, Kapche**

Prerequisite: Graduate standing or consent of instructor. Review of research on methods of program evaluation, processes and outcomes of psycho-therapy; strategies of community intervention or other topics.

**581. Organizational and Personnel Psychology (3) S Jarrett**

Prerequisite: Psychology 381. Corequisite: 486. Work motivation, environmental perception, morale and job satisfaction, communication, leadership, organization theory, small groups, organization development, selection and training.



**586. Proseminar in Industrial Psychology (3) F,S Creamer, Jarrett**

Prerequisite: Psychology 381. Advanced consideration of problems and procedures in industrial psychology. Includes both differentiation and synthesis of major areas comprising industrial psychology.

**590. 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 selection of a second topic) for a maximum of six units. Topics will be announced in the *Schedule of Classes*.

**631. Seminar in Perception and Physiological Psychology (3) F,S Colman, Haralson**

Prerequisites: Psychology 331 or 341 or 345 or consent of instructor, consent of graduate adviser, advancement to candidacy. Critical examination of selected topics in perception, information processing and neurophysiological correlates of behavior. Student emphasis on either perception or physiological psychology.

**632. Seminar in Learning (3) F Nygaard, Smith**

Prerequisites: Psychology 333 or consent of instructor, consent of graduate adviser, advancement to candidacy. Advanced consideration of selected topics in learning.

**634. Seminar in Cognition (3) S Padilla, Smith**

Prerequisites: Psychology 333 or 332 or consent of instructor, consent of graduate adviser, advancement to candidacy. An examination of method, theory and experimental evidence in selected topics from the area of cognition.

**637. Seminar in Emotion and Motivation (3) F,S Hupka**

Prerequisites: Psychology 336 or 337 or consent of instructor, consent of graduate adviser, advancement to candidacy. Advanced consideration of selected topics in animal and human motivation and emotion.

**651. Seminar in Social Psychology (3) F,S Carlson, Jorgenson, Lindner**

Prerequisites: Psychology 351 or consent of instructor, consent of graduate adviser, advancement to candidacy. Critical examination of interpersonal relations, social influence, group membership and influence, and intergroup relations.

**656. Seminar in Personality (3) F,S Kapche, Lindner, Thayer**

Prerequisites: Psychology 356 or consent of instructor, consent of graduate adviser, advancement to candidacy. Theories of personality structure, dynamics, and development. Critical examination of research deriving from different theoretical approaches.

**661. Seminar in Developmental Psychology (3) F,S Nummedal**

Prerequisites: Psychology 361 or consent of instructor, consent of graduate adviser, advancement to candidacy. Consideration of theoretical and methodological issues in life span developmental psychology. Critical examination of research on selected topics, including development of physiological functions, intelligence, language, learning processes, sensory processes, perception, personality and social behavior.

**671. Seminar in Behavior Disorders of Children (3) F or S 1981-81 demand Petersen, Lowenthal**

Prerequisites: Psychology 370; Psychology 361 or Ed. Psych. 301, consent of graduate adviser, advancement to candidacy. Investigation of the etiology, classification, diagnosis and treatment of behavior disorders in children from birth through adolescence.

**672A-B. Seminar in Community Psychology (4,4) F,S Faculty**

Prerequisites: Psychology 673 and consent of instructor and graduate adviser. Intensive professional orientation in such topics as the psychology of poverty, racism, alienation, urbanization.

**673A,B. Practicum in Community Psychology (1-8) F,S Faculty**

Prerequisites: Psychology 672A-B concurrently or consent of instructor, consent of graduate adviser. On-the-job training in the community. This work will be supervised by professional personnel and coordinated by university faculty. May be repeated for up to eight units of credit.

**678. Clinical Practicum (3) F,S DeHardt, Fiebiger, Linden, Raine**

Prerequisites: Psychology 356, 370, 475, 573, 574, consent of instructor and graduate adviser, advancement to candidacy. Application for the Practicum should be made by October 15 or April 1 for the following semester. Clinical practice in varied clinical settings. Individual work with clients, diagnostic procedures, staff conferences, and case management. May be repeated for a maximum of six units of credit.

**681. Seminar in Applications of Psychology to Industry (3) F,S Creamer, Jarrett**

Prerequisite: Consent of instructor and graduate adviser. Psychological applications to current problems of industry. Development of thesis proposal and pretest of thesis research techniques required.

**688. Practicum in Industrial Psychology (3) F,S Creamer, Jarrett**

Prerequisites: Psychology 681, consent of graduate adviser. Practice of industrial psychology of human factors in various industrial settings. Individual research and consultation with industrial or governmental organizations.

**690. Seminar in Psychology (3) F,S Faculty**

Prerequisites: Consent of instructor and graduate adviser, advancement to candidacy. Seminar on topics of current interest in psychology selected for intensive development at an advanced level. May be repeated for a maximum of six units with different topics.

**696C. Research Methods in Psychology (3) F,S Hanson, Newman**

Prerequisites: Psychology 411 or 412, consent of graduate adviser, advancement to candidacy. The nature and function of research in the behavioral sciences. Experimental, correlational and case study methods. Research design and analysis using multiple linear regression model, general probability models and Bayesian inference. This course is offered particularly for master of arts students and includes the required comprehensive examination.

**696I. Research Methods in Psychology (3) F,S Creamer, Hanson, Newman**

Prerequisites: Psychology 411 or 412, consent of graduate adviser, advancement to candidacy. Nature and function of research in the behavioral sciences. Experimental, correlational and case study methods. Research design and analysis using multiple linear regression model, general probability models and Bayesian inference. Offered particularly for master of science in industrial students and does not include the comprehensive examination required for master of arts students.

**697. Directed Research (1-3) F,S Faculty**

Prerequisites: Consent of graduate adviser, department, advancement to candidacy. Theoretical and experimental problems in psychology requiring intensive analysis.

**698. Thesis (1-6) F,S Faculty**

Prerequisites: Advancement to candidacy, consent of adviser. Planning, preparation, and completion of a thesis in psychology. Must be repeated for a total of six units of credit.

# Public Policy and Administration

**Director, Center for Public Policy and Administration:** Melchior D. Powell.

**Assistant Director:** Stephen Blumberg.

**Administrative Assistant:** William C. Manes.

**Faculty Advisers:** All graduate faculty and members of the Faculty Advisory Committee to the Center.

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## Faculty

**Professors:** Powell, Shaw.

**Associate Professors:** Baget, Barber, Blumberg.

**Assistant Professors:** Brandt, Ross.

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 uses 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 basic 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. It 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.

A detailed summary of requirements, course offerings and procedures for the master of public administration degree program are contained in a student handbook available from the Center for Public Policy and Administration.

**Master of Public Administration Degree (code 7-9550)****Prerequisites**

1. A bachelor's degree from an accredited college or university, which must include a minimum of 12 units of course work in curriculum reflecting professional competencies in the public service. Adequate undergraduate preparation shall be determined by the Center on a case by case basis. Significant managerial experience may be substituted for prerequisite course work on a case by case basis.
2. A student must have an undergraduate grade point average of 2.75 or better. A student whose overall undergraduate average is less than 2.75 but who presents acceptable evidence of professional potential shown through recent academic performance and experiential background, may be admitted by special action of the Center.

Following admission to the University, each student should formulate a Program Prospectus, or learning plan, in conjunction with a Center faculty adviser. The objective of the prospectus is to assist the student in developing an effective course of study to meet individual career needs and goals. The faculty adviser will provide advice to the student on MPA degree course requirements and elective opportunities and counsel the student in the chosen elective area.

**Advancement to Candidacy**

1. Satisfaction of the general University requirements for advancement to candidacy.
2. Completion of all master of public administration degree prerequisites.
3. Approval of the candidate's program by a faculty adviser and the Director of the Center for Public Policy and Administration.
4. Completion of six units of course work at this University with a minimum 3.0 grade point average in all work completed or transferred to meet degree requirements toward the 36 unit minimum requirement for the M.P.A. degree.
5. Earned a minimum grade point average of 3.0 in all graduate work completed at this University or transferred to meet M.P.A. degree requirements.

**Requirements for the Master of Public Administration**

1. A minimum of 36 course units in graduate course work with a minimum of 21 units of 500/600 level courses in public policy and administration.
2. Satisfactory completion of Public Policy and Administration 500, 510, 650, 660, 670 and 696.
3. Completion of approved internship program (Public Policy and Administration 585 or 586) as required course work beyond the 36 unit minimum, or waiver of the internship requirement based on professional experience.
4. Additional elective course work in elective fields to meet the 36 unit minimum.
5. Successful completion of a written comprehensive examination and Public Policy and Administration 697, Directed Research, or 698, Thesis, and an oral examination on the thesis.

**Graduate Courses**

Graduate course descriptions are found in the departmental listings in which they are offered. Graduate courses applicable for the degree are Art 611; Civil Engineering 506, 507, 522, 525, 560, 564, 565; Criminal Justice 512, 551, 581, 621, 622, 623, 624, 640, 641, 650, 690; Economics 500, 510, 511, 545, 636, 640, 645, 650, 665, 686; Educational Administration 541, 544, 571, 573, 580, 647, 648, 649, 651, 661, 680; Educational Psychology 615; Finance 533, 632; Geography 666; Health Science 501, 508, 626, 627, 628; Home Economics 541; Human Resources Management 500, 552, 556, 650, 652, 655, 657; Management 542, 544, 641, 642, 645A,B, 646A,B;

Marketing 664; Physical Education 521; Political Science 587, 630; Psychology 515, 527, 581, 586, 681; Public Policy and Administration 515, 525, 530, 535, 540, 545, 550, 555, 565, 575, 590, 597, 615, 680; Quantitative Systems 500; Recreation and Leisure Studies 521, 525, 571, 575, 595; Theatre Arts 694; Vocational Education 501, 502, 504.

**500. Foundations of Public Policy and Administration (3) F,S Faculty**

Concepts of the discipline; fundamentals of public organization theory, policy formulation and analysis, and administrative and management processes; management of the public interest; and ethics in government.

**510. Public Administrative/Management Processes (3) F,S Faculty**

Analysis of public administrative/management processes from the perspective of the public executive, public finance and budgeting, public personnel systems, standards of efficiency and effectiveness in the conduct of the public's business, and the role and use of organizations and administrative processes to achieve public objectives.

**515. Administrative Report Writing (3) F,S Barber**

Preparation of written documents required of public administrators. Not open to students with credit in P.P.A. 590 — Administrative Report Writing.

**525. Social Services Administration in the Public Sector (3) F,S Brandt**

Examination of social services agencies in the public sector and the unique administrative practices, policies and problems associated therein.

**530. Manpower Planning for Public Sector Organizations (3) F,S Barber**

Examination of manpower programs and practices in the public sector with emphasis on federally subsidized programs and their implementation through local governments. Analysis of the functions of the manpower planner as they pertain to local market information; program monitoring and evaluation; and the human service delivery system.

**535. Intergovernmental Administration and Management (3) F,S Baget**

Concepts and perspectives of the field; fundamentals of interorganizational theory and practice; policy making and implementation issues; intergovernmental administrative and fiscal relations.

**540. Grants Administration and Management (3) F,S Baget**

Study of the various types of financial and technical assistance to local public and quasi-public agencies; the strategies for locating and obtaining grant programs support; and the development of effective project systems for externally funded projects. Not open to students with credit in P.P.A. 590 — Grants Administration and Management.

**545. Urban Planning Policies Processes and Techniques (3) F,S Faculty**

Historical development of urban planning concepts and practices; general plan formulation; general plan housing and conservation elements; general plan open space and seismic safety elements; general plan noise and scenic highway elements; general plan safety and optional elements; public participation; environmental impact analysis; development of Southern California's infrastructure; governmental programs influencing Southern California planning (Federal, State); governmental planning in Southern California.

**550. Urban Transportation Policy and Planning (3) F,S Shaw**

Examines the status of urban transportation activities and needs today and discusses the near and long-term options for the future. Analyzes local, state, federal policy and intergovernmental system; Los Angeles urban transportation development, transit proposals and new policies and activities.



**555. Local Government Budget Skills (3) F,S Brandt**

Detailed exploration of the various budget systems available to local governments. Stress will be on building detailed knowledge and skills in techniques of relating revenues to expenditures, program budget design and analysis, and relating budgeting to the political process. Methods of balancing citizen demands with revenue limitations within a consumer-oriented society also will be considered, as will traditional and behaviorally-oriented budget controls.

**565. Local Government Finance Skills (3) F,S Faculty**

Detailed examination of the local government finance function, and development of specific skills to be applied by the executive of middle management person in local government. Specific subjects will include accounting and its use; cash and debt management; public debt instruments; operating and capital budgeting; administration of property, sales, income, business and excise taxes; enterprise and miscellaneous revenue sources, control devices, systems and techniques; and state supervision of local finance.

**575. Public Sector Employer-Employee Relations (3) F,S Faculty**

Analysis of current prevailing practices and techniques in the public sector relating to the impact of collective bargaining and other personnel practices on the financial and budgetary capabilities of government; the course will review the financial implications of the civil rights legislation; discuss the cost of providing upward mobility through classification; present the real costs involved in the area of "total compensation;" and consider the fiscal implications of the arbitration process.

**585. Public Policy and Administration Internship Seminar (3) F,S Ross**

Prerequisite: Consent of instructor. A learning experience designed to provide an exposure to and an understanding of the governmental environment. Restricted to students who do not have previous work experience in the public sector. May be repeated for up to six units of credit.

**586. City Management Internship Program (3) F,S Faculty**

Prerequisites: Completion of all other academic course work and requirements for the master of public administration degree; consent of instructor. Intensive six months' internship designed to provide student with a learning experience under the direct supervision of a professional city manager. Course is designed to prepare students for a career as a city manager. May be repeated for up to six units of credit.

**590. Special Topics in Public Policy and Administration (3) F,S Faculty**

An investigation of a special problem as defined by the instructor that is of current interest to the field of public policy and administration. May be repeated up to nine units.

**597. Directed Studies (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Independent study in public policy and administration.

**615. Seminar in the Evaluation of Public Programs (3) F,S Ross**

Prerequisites: P.P.A. 670, 696. Examination of alternative views, goals, methods and problems involved in developing objective measurement and evaluation of the effectiveness of programs of governmental agencies. Emphasizes designing a plan evaluating a public program or activity and execution of a pilot study.

**650. Seminar on Issues in Contemporary Public Administration (3) F,S Faculty**

Survey of various issues and topics critical to effective public administration in the contemporary United States including the social and political context of contemporary public administration (e.g., increasing diversity of public demands of public agencies, increasing complexity of the intergovernmental network, etc.), responsibilities and obligations of public servants in contemporary governments and selected issues of public management.

**660. Seminar in Organization Theory and Behavior (3) F,S Faculty**

Organizational change, effectiveness and allocation processes in public agencies. Theoretical models of open systems, rationalist, conflict, coalition and decision-making theories will be investigated with the aim of presenting a unified set of propositions about organizations. Leadership and small group theory.

**670. Seminar in Public Policy Analysis (3) F,S Faculty**

Problems of formulating and evaluating public policy. Examination of how officials have dealt with policy questions in various governmental contexts and the strategic environment of such analysis. Critical survey of various prescriptions for improving public policy and public policy analysis, focusing in particular on the implications of reform for government expenditures.

**680. Seminar in Urban Administration (3) F,S Faculty**

Intensive study on the functions of the urban executive within the context of the urban environment. Focus upon the role of the urban public executive in the decision process as it relates to organizational theory and structure, ethics, delivery of services, motivation and productivity, management monitoring and auditing. Students present term projects relating to current urban government, public and quasi-public agency issues.

**696. Research Methods in Public Administration (3) F,S Faculty**

Application of relevant research techniques to the problems of public sector management and policy formulation. Topics include legal research methods, the development of legislative proposals, elemental benefit-cost analysis, techniques of evaluating programs, and general application of the above skills to policy formation and administrative problems of public organizations. Examination of methods to critically evaluate research designs, research evidence, sampling procedures and statistical data.

**697. Directed Research (1-3) F,S Faculty**

Prerequisites: Consent of Center graduate adviser, advancement to candidacy. The definition, presentation and discussion of selected problems in public administration (restricted to students who select the final comprehensive option).

**698. Thesis (1-4) F,S Faculty**

Prerequisites: Consent of Center graduate adviser, advancement to candidacy. Planning, preparation and completion of a thesis related to the field of public administration (a thesis on the official MPA degree program will carry four units, see *Center Guidelines for the Thesis* contained in the *Student Handbook*).

# Quantitative Systems

## School of Business Administration

**Department Chair:** Dr. Lincoln L. Chao.

**Emeriti:** Darrell V. Burras, Braxton C. Henderson, Harry G. Romig.

**Professors:** Chao, Doud, Gilon, Keester, King, Nelson, Stinson, Wollmer.

**Associate Professors:** Gillis, Payne, Pickard.

**Academic Advising Coordinators:**

Administrative Systems Option: Mr. Ronald King.

Business Computer Methods: Dr. Paul Gilon.

Quantitative Methods Option: Dr. Carl Payne.

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For all degree requirements see **Business Administration**.

### Administrative Systems

#### Lower Division

**130. Current Concepts of American Business (3) F, S Doud, Gillis, 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 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.

**\*402. Business Reports (3) F, S Doud, Pickard**

Analysis of the principles of collecting, organizing and presenting business data. Oral and written reports involving problem solving in the administrative management process.

**\*432. Administrative Information Systems (3) F, S 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) F Doud, Pickard**

Prerequisite: Consent of instructor. Contemporary business communication thought and research applied in the solving of organizational communication problems.

**521. Advanced Administrative Management (3) S Doud, Keester**

Prerequisite: Quantitative Systems 331 or consent of instructor. Advanced study in the problems, practices and policies involved in administrative management. Methods of establishing, analyzing, standardizing and controlling administrative systems and procedures in the office.

**522. Issues and Trends in Administrative Management (3) F Keester**

Advanced study in contemporary philosophies, issues and trends in administrative management and information systems.

**523. Survey of Research in Administrative Management (3) S Keester**

Study, analysis, interpretation and evaluation of significant research in administrative management and information systems.

**620. Case Studies in Administrative Management (3) F, S Doud, Keester**

Case studies in depth of regional organizations involving the interrelationships of information systems, communications and administrative management.

**697. Directed Research (1-3) F, S Faculty**

Prerequisite: Consent of instructor. Individual study under the direction of the faculty.

**Quantitative Methods****Lower Division****240. Business Data Processing (3) F, S Faculty**

Introduction to BASIC programming. Data processing and computer programming fundamentals designed to provide an understanding of the function of computers in business and governmental operations.

**242. COBOL Programming (3) F, S Gillis**

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.

**342. Advanced Cobol (3) F, S Faculty**

Prerequisite: One semester of structured Cobol programming. Advanced features of cobol, data structure and storage, advanced file organization and processing techniques, data base and data management systems design.

**410. Probability and Decisions (3) F, S Chao, Payne, Stinson, Wollmer**

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, Payne, Stinson, Wollmer**

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**

Prerequisite: Quantitative Systems 240 and either 242 or 243, or consent of instructor. Comparison of key characteristics of several major higher level languages. The languages are BASIC, FORTRAN, COBOL, APL, SNOBOL, LISP and GPSS. The characteristics are computational aspects, string and list processing, data bank design and file management and simulation capabilities.

**440. Time Sharing Software for Business Statistics (3) F, S Faculty**

Prerequisite: Quantitative Systems 310 or consent of instructor. Solution of elementary practical business problems through Time Sharing Software (MINITAB or SPSS). Programs covered include: descriptive statistics, analysis of variance, contingency tables, non-parametric methods. A survey of business data sources will also be covered.



**\*442. Business Computer Methods (3) F,S Gilon**

Prerequisites: Quantitative Systems 240, 310. The major topics covered are financial modeling, least squares model design (simple regression analysis), and forecasting techniques and time series decomposition. For each topic the following four steps are implemented: (1) brief theoretical exposition, (2) business data sources, (3) computer software use, (4) calculator verification. A financial-regression type calculator is required for this course.

**\*445. Computer Use in Multiple Regression Modeling (3) F,S Gilon**

Prerequisite: Quantitative Systems 442. Topics covered are: Multiple regression analysis (MRA), polynomial regression, and simultaneous equations modeling and econometric forecasting. The students will be guided in the development and verification of their own permanent MRA package using matrix algebra in BASIC, FORTRAN, or APL according to the student's own preference. Time Sharing software in MRA-related programs will also be covered.

**\*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) F,S Faculty**

Prerequisites: Quantitative Systems 310, 243. Solution of business simulation problems through extensive use of simulation languages such as GPSS and SIMSCRIPT II. Topics covered include: random number and process generator, simulation of queueing and inventory systems, and design, analysis and validation of simulation experiments.

**\*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****570. Economic Theory of Decision (3) F Chao, Payne, Stinson**

Prerequisite: Quantitative Systems 210. Economics of decision making in business and government. Consistent behavior in terms of personal utilities and probabilities. Departures from consistency; stochastic theories of behavior and resulting econometric models.

**571. Theory of Information (3) S Chao, Payne, Stinson**

Prerequisite: Quantitative Systems 570 or consent of instructor. Decision making and behavior in terms of personal utilities and probabilities. Optimal decision and information rules. Amount, cost and value of information.

**572. Stochastic Processes (3) F Faculty**

Discrete and continuous stochastic processes including renewal theory, Markov chains and queuing theory. Application to the solution of business oriented problems.

**573. Advanced Statistical Inference (3) S Payne**

Prerequisite: Quantitative Systems 410. Statistical theory and practical applications to problems of the firm. Includes discrete and continuous distributions, random sampling, transformations of variables, estimation, tests of hypothesis, sufficiency.

**574. Topics in Multivariate Analysis (3) S Gilon**

Prerequisite: Quantitative Systems 410. Multivariate statistical techniques in behavioral and management science research. Topics include factor analysis, component analysis, multiple discriminant functions, canonical correlations, and generalized distance functions.

**575. Experimental Design (3) S Gilon, Stinson**

Prerequisite: Quantitative Systems 410. Experimental design as applied to behavioral and management science research. Topics include complete and incomplete block design, factorial experiments, Latin squares, analysis of covariance and multiple comparisons.

**670. Seminar in Operations Research and Statistics (3) F Stinson, Wollmer**

Contemporary issues, problems and trends in operations research and statistics.

**695. Selected Topics (3) F,S Faculty**

Prerequisite: Consent of instructor. Topics to be announced in the *Schedule of Classes*. Topics change each offering and in the absence of significant duplication the course may be repeated once for credit.

**697. Directed Research (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Individual study under the direction of the faculty.

# Radio-Television

## School of Humanities

**Department Chair:** Dr. Robert G. Finney.

**Professors:** Baker, Finney, Martin, Morehead.

**Associate Professor:** Balon, Langston, McMillan.

**Undergraduate Adviser:** Dr. Robert G. Finney.

The curriculum in radio-television is designed to prepare both media consumers and media practitioners in a changing world of communication arts and technologies. Counseling, instruction and internship experiences are provided student majors who wish to pursue a variety of media careers, as well as students who are primarily interested in the impact of the electronic media on our lives.

The department does not graduate specialists with a narrow focus in a single medium. While providing audio, video and film production courses, the department also stresses the importance of pre and post production concepts and skills. These are acquired as part of intensive study in the liberal arts and sciences.

Students planning to major in radio-television must contact the department for academic advisement. They are encouraged to complete Radio-TV 150, Introduction to Radio-Television, prior to declaring a radio-television major.

### 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:

Ed Arnold, sportscaster, KABC-TV

Alice Backes, actress, American Federation of Television and Radio Artists

Joseph Baker, attorney

Warren Baker, KNBC-TV

Ralph Bakshi, animator/director

Bernard Barron, 20th Century Fox

Phoebe Beasley, American Women in Radio and Television

Dick Block, Council for UHF Broadcasting

Clayton Brace, KGTU-TV

C.C. Carter, A.C. Nielsen Co.

Willie Davis, KACE-FM

David Dortort, producer

William Fraker, cinematographer

William Furniss, KOCE-TV

Richard Jones, General Telephone Co.  
 Irma Kalish, writer/Writers Guild of America-West  
 Robert Light, Southern California Broadcasters' Assn.  
 James Loper, KCET-TV  
 Ron Mardigian, William Morris Agency  
 Tichi Wilkerson Miles, The Hollywood Reporter  
 David Moorhead, KMET-FM  
 George Nicholaw, KNX-AM  
 Robert O'Connor, KTTV-TV  
 Jon Peterson, P&G Communications, Inc.  
 Stu Rosen, producer/performer  
 Jay Sandrich, director  
 John Severino, KABC-TV  
 Stephen Sharmat, film consultant  
 Sherwood Schwartz, producer  
 Dewey Smith, McDonnell-Douglas Corp.  
 William Yates, Walt Disney Enterprises

#### Major in Radio-Television for the Bachelor of Arts Degree (code2-6846)

*Lower Division:* Radio-TV 150, 204, 207, 208, 210, Speech Communication 130 and English 101.

*Upper Division:* A minimum of 24 units which must include Radio-TV 406, 430, and 300 or 416.

The student is advised to elect at least 18 units from the following: business administration, creative writing, instructional media, journalism, social-behavioral sciences, speech, theatre arts and fine arts.

#### Lower Division

##### 150. Introduction to Radio-Television (3) F,S Finney

An overview of the field of radio and television with emphasis upon history, economics, programming, regulation, technology and social impact of the radio and television media.

##### 204. Writing and Production Planning (3) F,S Baker, Balon, McMillan

Prerequisite: Radio-TV 150 with a grade of C or better or consent of instructor. Study of pre-production principles and procedures common to all media producers, with emphasis upon scripting and other writing skills unique to the electronic media. Consideration of budgeting, casting, legal clearances and other production problems.

##### 207. Broadcast Audio Operations (2) F,S Balon, McMillan, Faculty

Prerequisites: Radio-TV 150 and 204 with a grade of C or better and consent of instructor. Basic principles and techniques of studio operation, performing, writing, and producing for radio. (Activity 4 hours.)

##### 208. Television Studio Operations (2) F,S Baker, Finney, Martin

Prerequisites: Radio-TV 150 and 204 with a grade of C or better and consent of instructor. Basic principles of planning, writing and producing television programs. (Activity 4 hours.)

##### 210. Film Camera Operations (2) F,S Faculty

Prerequisites: Radio-TV 150 with a grade of C or better and consent of instructor. 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 8mm and Super-8mm equipment and materials. (Activity 4 hours.)

#### Upper Division

##### 300. History of Radio and Television Programs (3) F,S Martin

Development of radio-television programming in America.

##### 301. Television Production (3) F,S Baker, Finney, Martin

Prerequisite: Radio-TV 208 with a grade of B or better and 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. (Production laboratory 9 hours.)

##### 302. Radio-Television-Film Activity (1) F,S Faculty

Prerequisite: Consent of instructor. Group and individual experience in areas of radio-television-film production, and broadcast education. Specific assignments determined in consultation with instructor. Hours other than regular class time to be arranged. May be repeated once for a maximum of two units. Offered on CR/NC basis only.

##### 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 Baker, McMillan

Prerequisite: Radio-TV 204 with a grade of C or better or consent of instructor. Nondramatic and dramatic writing for broadcasting and motion pictures.

##### 309. Radio Production (3) F,S Faculty

Prerequisite: Radio-TV 207 with a grade of B or better and consent of instructor. Planning and producing original programs for broadcast and other means of delivery to the public. (Production laboratory 9 hours.)

##### 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 (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. Only three units may be used toward the major.

##### 316. Techniques of Motion Picture Production (3) S Faculty

Prerequisite: Radio-TV 210 with a grade of B or better and 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. Not open to students with credit in Radio-TV 410. (Production laboratory 9 hours.)

##### 324. Television Programming Symposium (3) F,S Faculty

Discussion and analysis of creative problems in the television industry. Current local and network programs. Interviews with visiting executives, producers, directors, writers, performers and technicians. May be repeated once. Only three units may be used as credit toward major.



**339. KSUL Activity (2) F,S Faculty**

Prerequisite: Radio-TV 309 or consent of instructor. Experience in administering and programming the University radio station, KSUL. Hours in addition to those scheduled will be arranged. May be repeated for a maximum of four units.

**345. Television, Film, Media Graphic Production (3) F,S Faculty**

Theory and practical experience in the development of graphic arts for television, film or educational media productions. Emphasis upon planning and requesting graphics by the producer and designing graphics by the artist.

**402. Broadcasting/Film Organizations (3) S Finney, Langston**

History, philosophy and development of employee-employer relations in broadcasting and motion pictures. Consideration of major contract provisions and collective bargaining unique to the electronic media.

**403. Electronic Media in Education and Industry (3) F Baker, Langston**

Development and utilization of radio, television and film in education and industry with emphasis upon instruction, training and public relations.

**406. Mass Media and Society (3) F,S Finney, Langston, Martin, Morehead**

Theory and functions of the mass media in America. Enduring issues and unresolved problems of the media. Impact of mass culture on a mass-mediated society.

**407. Children's TV Programming (3) S Martin, 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.

**408. Documentary Program Production (3) F Faculty**

Prerequisites: Successful completion of an upper division production course, consent of instructor. History, theory and practice of documentary programming. Students will plan, research, write and produce either an audiotape, videotape or 16mm film documentary to professional standards. Material costs are expected to be approximately \$200 per student. Not open to students with credit in Radio-TV 308.

**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.)

**420. Broadcast and Media Management (3) F Balon, Finney**

Study of management in the unique broadcast and related media communications industry. Emphasis upon the manager's role and functions in the station, agency or other organization. Concentration in the areas of technical, program, community ascertainment in meeting the public interest obligation of a station licensee including relationships between the station, network, program producers, advertising agencies and the community.

**430. Broadcast/Cablecast Regulation (3) S Finney**

Study of Federal Communications Law and court cases related to the broadcast/cablecast industries in the United States. Emphasis upon case analysis of landmark decisions affecting programming, news, advertising and other industry concerns.

**432. Media Criticism (3) F Faculty**

Prerequisite: Radio-TV 300 or 416. Examination of theoretical bases of aesthetics and their application to the film, radio and television media. Study of critical approaches to and assessment of current trends and practices. Students are required to spend three hours each week reviewing the medium under study. (Lecture 3 hours, reviewing media 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 media facilities on or off campus. Work to be directed and evaluated by the instructor in consultation with 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. Offered on CR/NC basis 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.

# Recreation and Leisure Studies

## School of Applied Arts and Sciences

**Department Chair:** Dr. Marilyn A. Jensen.

**Emeritus:** Stanley R. Gabrielsen.

**Professors:** Cook, Gray, Jensen.

**Associate Professors:** Andersen, Gattas, Minar.

**Assistant Professor:** Crayton.

**Undergraduate Advisers:** Ms. Rhoda Andersen, Ms. CeEtta Crayton, Dr. Joyce Gattas, Mr. John Minar.

**Graduate Adviser:** Dr. Raymond Cook.

**Graduate Committee:** Andersen, Cook, Crayton, Gattas, Jensen, 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 includes 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.

The Department of Recreation and Leisure Studies offers a program of graduate studies leading to the master of science degree in recreation administration. Detailed information about the program is available upon request from the Recreation and Leisure Studies Department. The program helps prepare professional personnel who can contribute to the development of a philosophy of leisure, who are competent managers of private and public agencies and programs, and who can accomplish the field research necessary to support current and future operations. Unusually fine opportunities exist in this area for interaction with recreation agencies of all kinds.

Each applicant should request a copy of the official transcript of all college course work be sent to the graduate adviser in the Recreation and Leisure Studies Department in addition to the copies required by the Office of Admissions and Records.

#### Major in Recreation for the Bachelor of Arts Degree (code 2-1220)

*Lower Division:* Recreation 100, 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, 483, 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; two courses selected from Speech Communication 344, 434, Journalism 270, 375, 376, 471; three courses from Recreation 482, 491, 493, 495; 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 of performing arts approved by adviser; *Physical Recreation Activities:* Recreation 315, plus three units of physical 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, 421 or 425, 484; one of the following: Recreation 315, 317, 491, 493, 495.

#### Certificate Program in Therapeutic Recreation

*Requirements for the Certificate in Therapeutic Recreation:*

1. A bachelor of arts degree or minor in recreation. The majority of the work for the certificate can be done concurrently with the recreation degree.
2. Recreation 484, 485, 487, 491 and 494. Recreation 484 or 485, Fieldwork I or II, must be completed in an approved therapeutic setting. Recreation 487, Internship in Therapeutic Recreation, must be taken after completion of the baccalaureate degree in recreation. The internship requirement is 40 hours per week for a minimum of eight weeks.
3. Nine units of upper division course work must be taken from two or more of the following areas, with approval of the therapeutic recreation adviser: Biology, Educational Psychology, Health Science, Physical Education, Recreation, Sociology, Social Welfare.

#### Certificate Program in Administration of Volunteer Services

Students pursuing an approved degree at CSULB may, at the same time, earn a Certificate in Management of Volunteer Services. Courses taken to meet the requirements of the certificate may also be used simultaneously, where appropriate, to meet the general education requirements of the degree or credential requirements of cooperating departments.

The certificate may be earned through continuing education by students not regularly enrolled at the University. The program is also open to persons who have years of volunteer services in their background and are interested in becoming employed as paid volunteer coordinators.

*Requirements for the Certificate in Administration of Volunteer Services*

1. A baccalaureate degree which may be awarded concurrently.
2. Satisfactory completion of 25 units which must include 10 units of core requirements as follows: Recreation 400, 488, 493 and 499; 15 units including Recreation 490; at least one three-unit course in administrative skills, one in communication skills, and one in an area related to the student's special interest. All electives must have prior approval from the adviser of the certificate program.

#### Certificate Program in Administration of Outdoor Recreation Resources

Requirements for the Certificate in Administration of Outdoor Recreation Resources:

- a. A baccalaureate degree which may be awarded concurrently.
- b. Satisfactory completion of 24 units which must include 12 units of core requirements as follows:  
Recreation 430, 489, 495, and 499  
3 units from Recreation 317 or 486  
9 units selected from Biology 100, 103, 105, 106, 200, 201, 203, 212, 328; Geography 140, 304, 356, 442, 444, 455
- c. Overall G.P.A. of 2.5, and maintenance of 2.56 G.P.A. in all courses in the program.

#### Master of Science Degree with a Major in Recreation Administration (code 6-1220)

##### Prerequisites

1. A bachelor's degree with a major in recreation, or:
2. A bachelor's degree with a minimum of 24 units of upper division courses comparable to those required in the undergraduate recreation major at this University. (Students deficient in undergraduate preparation must take courses to remove these deficiencies at the discretion of the departmental graduate committee.)

##### Advancement to Candidacy

1. Satisfy the general University requirements for advancement to candidacy.
2. Approval of the department graduate adviser and the Director of Graduate Studies and Research, School of Applied Arts and Sciences.

##### Requirements for the Master of Science

1. Thirty units with a minimum of 24 units in recreation including Recreation 521, 571, 575, 591, 595, and 696.
2. Recreation 696, Research Methodology, must be completed in the first year of the program, or concurrently with any 500 or 600 level course.
3. A maximum of six units may be elected outside the department.
4. A thesis (Recreation 698) and an oral thesis examination.

##### Lower Division

#### 100. Orientation to Recreation and Leisure Studies (1) F,S Faculty

Evaluation of students' academic, social and personal attitudes 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. Not open to students with credit in Recreation 300.

#### 211. The Recreation Program (3) F,S Faculty

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.

#### 241. Community Recreation (3) F,S Gattas, Minar

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 Crayton, Gattas**

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. Not open to students with credit in Recreation 100.

**\*312. Recreation Leadership (3) F, S Andersen, Gattas**

Prerequisites or corequisites: Recreation 211, 241. Theory and application of leadership as it pertains to leisure service agencies. Analysis of interpersonal and group skills necessary for effective leadership.

**315. Recreational Sports Supervision (3) F, S Faculty**

Organization and supervision of recreational sports for community-wide participation. Not open to students with credit in Recreation 315A, B.

**317. Camp Counseling and Administration (3) S Faculty**

Program and administration of the summer camp, with special emphasis on the responsibilities of the camp counselor. Designed for students seeking summer camp employment. Not open to students with credit in Recreation 217.

**\*340. Leisure in Contemporary Society (3) F, S Andersen, Gattas**

Prerequisite: Upper division standing. Intensive study of the new leisure and its impact on contemporary society.

**\*400. Policy-Making Boards (1) F, S Andersen**

Study of policy-making structures within private and public organizations with special attention to volunteers working in the administrative area.

**\*401. Swimming Pool Management (1) S Minar**

On-site, hands-on experiences in swimming pool operation and facility management. Classroom theory in areas of pool water chemistry, filtration and public health requirements for private and public pool operation.

**\*402. Leisure Counseling (3) F Gattas**

Current processes and procedures in leisure counseling. Includes techniques of leisure needs assessment, development of leisure resource files and leisure values orientation.

**\*403. Aging and Leisure (1) S Gattas**

Physical, social and psychological characteristics of aging as they apply to leisure.

**\*404. Computers in Leisure Services (1) F Jensen**

Terminology and application of computers to the administration of leisure service delivery systems.

**405. Management of Assaultive Behavior (1) F, S Faculty**

Current techniques and procedures utilized by the California State Hospital system to deal with the assaultive patient/client, emphasizing preventive, therapeutic approaches. Certificate issued upon successful completion of this course.

**\*421. Supervision in Recreation (3) F, S 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.

**\*430. 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.

**\*482. Recreation in the Urban Community (3) F, S Crayton**

Exploration of the social problems, minority populations and community resources of the urban impacted areas in relation to concerns of recreation and human needs.

**483. Professional Preparation for Leisure Services (3) F, S Jensen**

Corequisite: Recreation 484. Synthesis of knowledge and experience comparing and contrasting trends in a variety of leisure service agencies. An integral part of the course is completion of the student assessment program with emphasis on analysis of professional goals and the development of career objectives.

**\*475. Philosophy of Recreation and Leisure (3) F, S Minar**

Prerequisites: Senior standing, recreation majors only. Exploration of the philosophic bases for current practices in recreation and leisure organizations.

**484. Field Work I (3) F, S Andersen**

Prerequisites: Consent of instructor, Recreation 211, 241, 300, 312, senior standing; plus a minimum of 1,000 hours of verified paid or volunteer 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, 300, 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.

**\*487. Internship in Therapeutic Recreation (3) F, S Crayton**

Prerequisites: B.A. degree in recreation plus completion of Recreation 491, 494, 484 or 485, plus nine units of course work from related allied health departments. This course is designed to provide clinical, practical and didactic experience in the field of therapeutic recreation. Students are required to work a minimum of 320 hours at pre-selected agencies certified by the California Recreation and Park Society.

**\*488. Internship in Management of Volunteer Services (3) F, S Andersen**

Prerequisites: 1,500 hours of paid or unpaid experience in a recognized volunteer program or Recreation 484. A minimum of 100 hours of supervised work experience in a specific agency, either public or private, jointly supervised by a coordinator of volunteer services and a University faculty member. May be in a paid or volunteer capacity. Do not substitute for Recreation 484, 485.

**489. Internship in Administration of Outdoor Recreation****Resources (3) F,S Minar**

Prerequisite: Recreation 484 or 1,500 hours of paid or volunteer experience in a recognized outdoor recreation agency. A minimum of 120 hours of supervised work experience in approved outdoor recreation agency, jointly supervised by the agency supervisor and a University faculty member. May be in a paid or volunteer capacity. *Note:* Does not substitute for Recreation 484, 485.

**\*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.

**\*493. Management of Volunteer Programs (3) S Andersen**

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.

**\*494. Therapeutic Recreation Procedures II (3) F,S Crayton**

Prerequisite: Recreation 491. Advanced principles, theories and trends relating to the field of therapeutic recreation. Emphasis on laboratory experiences leading to certificates in specialized rehabilitation areas.

**\*495. Outdoor Recreation Management (3) F,S Minar**

Extensive review of the techniques of management of outdoor recreation resources and the roles of federal, state, local and private agencies in acquisition and development of these resources. Not open to students with credit in Recreation 318.

**497. Commercial Recreation (3) F Faculty**

Prerequisite: Recreation 241. Current procedures and processes in commercial recreation enterprises. Includes in-depth exploration of many careers available and techniques and functions of commercial recreation.

**\*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) F Jensen**

Organizational theory; planning, staffing and budgeting of recreation programs in governmental and voluntary agencies.

**525. Recreation Areas and Facilities (3) F Faculty**

Design, acquisition and care of park and recreation land areas and facilities development.

**571. Philosophy, Issues and Trends (3) F Cook**

Current philosophy, trends and issues in the field of recreation.

**575. Problems in Recreation (3) S Cook**

Identification, analysis and proposed designs for the solution of problems in public and voluntary agencies.

**587. Field Work in Recreation Administration or Supervision (3) F,S Andersen, Cook, Crayton, Gattas, Jensen, Minar**

Prerequisite: Full-time recreation leadership experience. Minimum of 80 hours of supervised leadership in recreation administration or supervision in an approved public or private agency. Limited to students who expect to work in recreation administration or supervision.

**590. Special Topics in Recreation (1-3) F,S Faculty**

Prerequisite: Consent of instructor. In-depth investigation of topics of current interest and concern to students experienced in recreation. May be repeated (with selection of different academic sub-topics) for a maximum of six units of elective credit. Topics to be announced in the *Schedule of Classes*.

**591. Research Proposal Writing (1) F,S Cook, Gattas, Jensen**

Prerequisite: Recreation 696. Course is concerned with variations in research design and methodology. Completion of a thesis proposal is a requirement of this course.

**595. Management Studies (3) S Jensen**

Administrative studies and surveys; procedures for conducting appraisals of recreation programs and facilities.

**696. Research Methodology (3) F,S Gattas**

Research methodology in recreation. Must be taken in first year of program. Not open to students with credit in Recreation 496.

**697. Directed Studies (1-3) F,S Andersen, Cook, Crayton, Gattas, Jensen, Minar**

Prerequisites: Recreation 496, advancement to candidacy. Independent investigation of field research problems in recreation.

**698. Thesis (1-4) F,S Andersen, Cook, Crayton, Gattas, Jensen, Minar**

Prerequisites: Recreation 496, advancement to candidacy. Planning, preparation and completion of an approved thesis. Required of all master degree candidates in recreation administration.

# Religious Studies

## School of Humanities

**Department Chair:** Dr. Alexander Lipski.

**Professor:** Lipski.

**Associate Professor:** Eisenman.

**Assistant Professors:** Battaglia, Broughton.

**Undergraduate Adviser:** 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 human culture.

Students interested in the degree in Religious Studies should apply to the Department Chair, Religious Studies Department, 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 112, 152, 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, 316, 475, 490†, 495†; (b) *Christian Studies:* Religious Studies 312, 322, 324, 471, 472, 475, 487, 490†, 494†, 495†; (c) *Asian Studies:* Religious Studies 341, 343, 344, 351, 481, 487, 490†, 494†, 495†; (d) *Biblical Studies:* Religious Studies 311, 312, 322, 475, 490†, 494†, 495†; (e) *Contemporary Religious Studies:* Religious Studies 396†, 481, 487, 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, 442. Six to eight units of Hebrew, Greek or Sanskrit may be substituted.

### 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, 112, 152, 291.

† When subject matter of special topics course is applicable, the course may be used



**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, 316, 322, 324, 331, 471, 472; (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 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.

#### 112. Introduction to the Bible (3) F, S Battaglia, Eisenman

An overview of the Sacred texts of Jews and Christians. Inspiration, Creation, Salvation, and other Biblical themes will be discussed, as well as key persons and events, such as Moses, Jesus, etc. Not available to students with credit in Religious Studies 111.

#### 152. Introduction to Asian Religions (3) F, S Broughton

A survey of Indian, Chinese and Japanese religious thought. Emphasis will be on original texts in translations.

#### 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 Maccabees 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, Phariseism and Sadduceism).

#### 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 ghettos, 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.

#### 316. Jewish History (3) F Eisenman, Springer

Survey of Jewish history from early times to the present. Subjects such as the Babylonian Captivity, the fall of the Temple, the rise of Rabbinic Judaism, the Dispersion, the impact of anti-Semitism, Jewish community and intellectual life in the Middle Ages, Emancipation from the Ghetto, political movements, the Holocaust, Israel. Same course as History 331.

#### 322. Literature and Religion of the New Testament (3) S Battaglia, Eisenman

The emergent Christian community, seen through the missionary and pastoral letters, the synoptic gospels, the radical theologies of Paul and John and the dramatic visions of the Apocalypse.

#### 324. 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. Islamic Religion and Culture (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

Ancient Chinese religious thought; the penetration of Indian Buddhism and Ch'an (Zen); popular religion and the religion of the scholar-official. Emphasis will be on original texts in translations.

**344. Religions of Japan (3) S Broughton**

The transmission of continental civilization to Japan; Shinto, Buddhism and Tokugawa Neo-Confucianism; Genroku culture; and the New Religions. 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.

**471. 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.

**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.

**475. The Historical Jesus (3) F,S Eisenman**

The life and person of Jesus of Nazareth through a consideration of the political, religious, sociological and historical setting in which he lived. Non-Christian sources as well as Christian will be used in an attempt to reconstruct the movement centering around the person of the Messiah. The consequent messianic thrust of early Christianity both on a secular and religious basis will be treated fully. Readings from Josephus and the New Testament.

**476. Paul and James (3) F,S Eisenman**

The split between Gentile and Jewish Christianity, Paul representing Gentile Christianity and James the brother of Jesus, representing Jewish. A consideration of the two factions in the early Church, one following the "Apostle to the Gentiles" and the other following the family line of Jesus in a Jewish messianic way. Readings from apocryphal gospels, the Book of Acts, Paul's letters and Eusebius.

**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.

**487. Mystics West and East (3) F Lipski**

Analysis of the nature and methods of mysticism. Comparison of Christian, Jewish, Moslem, Buddhist and Hindu mystics. Emphasis on Christian mystics, especially Meister Eckhart and St. Therese of Avila.

**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.

# Russian-East European Studies

School of Social and Behavioral Sciences

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**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.

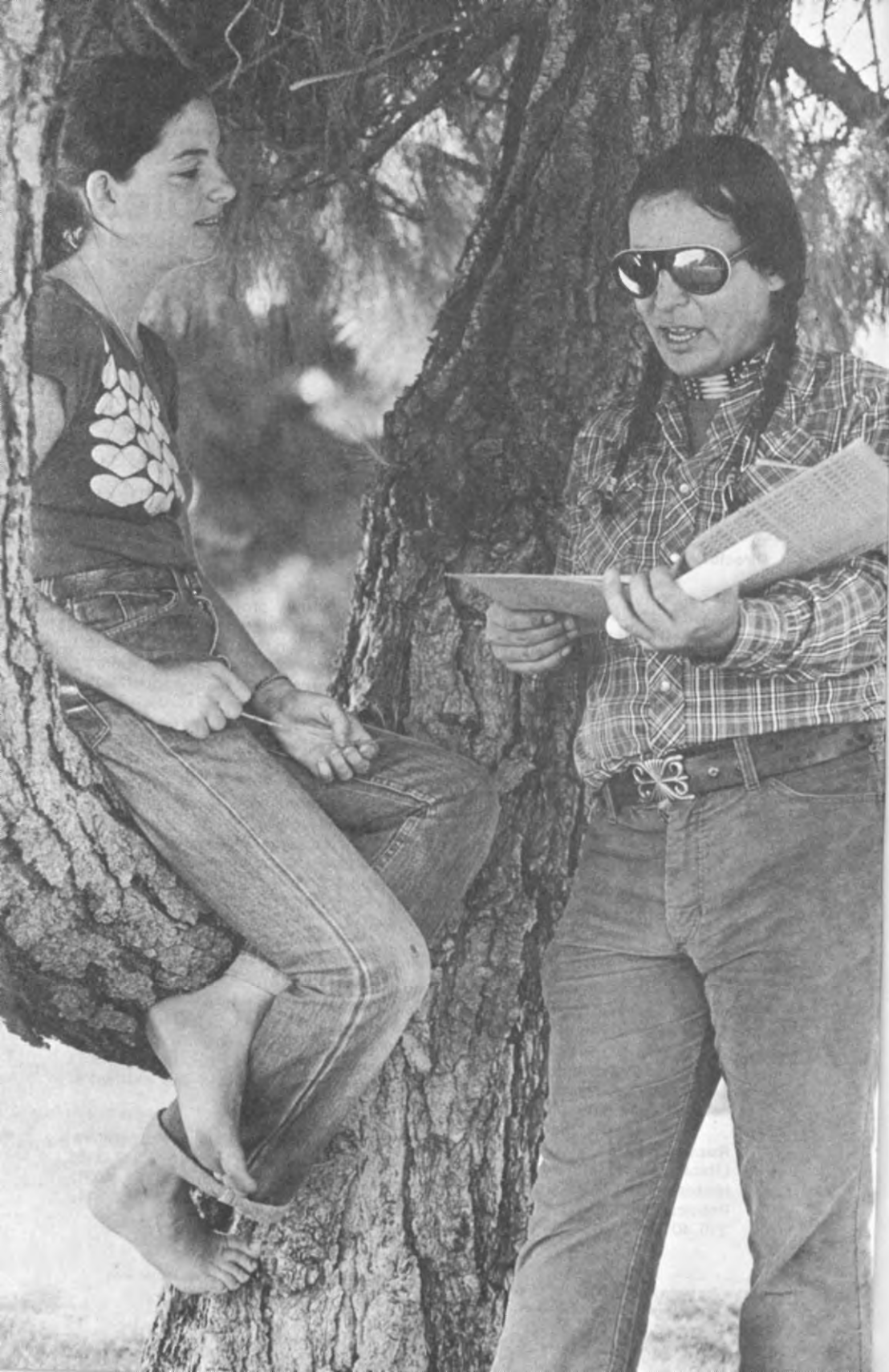
#### *Requirements for the Certificate in Russian-East European Studies*

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; Philosophy 425†, 490†; Political Science 306, 356, 357, 484, 497†; Russian 101A-B, 201A, 201B, 312, 314, 315, 401.

† May be taken only when course work is applicable to Russian-East European Studies. Consultation with director of the center is required.





# Social and Behavioral Sciences

## School of Social and Behavioral Sciences

**Dean:** Dr. Fen Rhodes (interim)

**Associate Dean:** Dr. Keith Ian Polakoff

Students in the School of Social and Behavioral Sciences explore the applied, historical and theoretical aspects of social and individual behavior. In addition to its degree and certificate programs, the School serves part-time students and other qualified individuals seeking a broadened understanding of individual and collective behavior.

Degree programs offered by the School are:

1. **Bachelor of Arts**  
Anthropology, Asian Studies, Black Studies, Economics, Geography, History, Human Development, Mexican-American Studies, Political Science, Psychology, Social Work, and Sociology.
2. **Master of Arts**  
Anthropology, Asian Studies, Economics, Geography, History, Political Science, and Psychology.
3. **Master of Science**  
Psychology, with options in Community Clinical Psychology and Industrial Psychology.

In addition to the degree programs, the School offers a variety of special programs and curricula:

1. **Certificate Programs**  
American Indian Studies, Asian American Studies, Black Studies, Legal Studies in the Liberal Arts, Russian-East European Studies, and Urban and Regional Studies.
2. **Minors**  
Public Policy and Women's Studies
3. **Language Courses**  
Bilingual English-Spanish, English-Chinese, and English-Japanese
4. **Computer Studies in the Liberal Arts**

### Special Facilities

The School operates special facilities including an anthropology laboratory, an archaeological museum, a geography laboratory, psychology laboratories, and computer laboratories.

Individuals seeking academic advisement should consult with the undergraduate or graduate program adviser listed for the particular area in the *Schedule of Classes*.

## School Programs and Courses

### Interdisciplinary Minor in Public Policy

The purpose of this program is to enable persons majoring in fields related to public policy to gain a broader understanding of the substance of public policies, the underlying social, economic and political factors related to policy alternatives, the dynamics of the public policy decision-making process, the values implicit in these decisions, and methods by which these aspects of public policy may be analyzed.

The minor consists of 21 units including a core curriculum of 12 units and 9 units of electives:

1. **Core Curriculum:** (12 units required)
  - A. Introduction to Public Policy. Three units chosen from among the following courses: Economics 436, Geography 466, Political Science 328, Psychology 375, Sociology 349, Urban Studies 401.
  - B. Public Policy 350
  - C. Public Policy 400
  - D. Public Policy 450

Note: It is strongly recommended that students take the core curriculum courses in sequence, the first two during the Junior year; the second two during the Senior year.

2. **Electives:** (9 units required)

At least six units of the nine elective units must be taken in one of the policy area concentrations outlined below. The remaining three units may be taken from among any of the elective courses approved for the minor.

**Policy Area Concentrations:** Community Relations and Social Services, Health Care, Housing and Recreation, Education, Economic Regulation, Justice and Law, Land Use and Ecology, Computational Skills for Public Policy, Foreign Policy and International Relations, Values and Public Policy, Government Processes and Policy.

### Upper Division

#### 350. The Policy Making Process (3) F,S Hardy, Schmidt

Examination of the processes through which public policies are formulated, adopted and implemented, and the political and organizational contexts which condition these processes.

#### 400. Program Evaluation and Policy Analysis (3) F,S Dowell

Examination of the meaning and use of concepts and methods employed in public policy decision analysis, including an overview of the decision process, sources and methods of handling policy-relevant data, and methods and techniques of program evaluation and policy analysis.

#### 450. Public Values and Public Policy (3) F,S Leiter, R. Schmidt

Critical examination of selected value choices involving how and by when public policy is to be made, and choices involving what should be the content and goals of public policy.

### Oral History

#### SBS 485. Oral History Methods (1) F,S Faculty

Through a series of workshops and through field experience, skills in oral history will be developed which will enable students to use oral history either for their own personal use in family history or for class projects in their specific fields.

# Social Work

## School of Social and Behavioral Sciences

**Department Chair:** Isaiah C. Lee.

**Emeriti:** Erma Lee Hutton, Warren Ponsar.

**Professor:** Lee.

**Associate Professors:** Granger, Kelly.

**Assistant Professors:** Jones, Portner.

**Undergraduate Adviser:** Isaiah C. Lee and full-time faculty.

**Field Experience Coordinator:** Earle M. Jones.

The Department of Social Work 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.

Students should come to the department as soon as possible for counseling and advising concerning the sequence in which courses should be taken and arrangement of their schedules.

Social work majors should consider taking courses particularly in the ethnic studies programs, other social and behavioral sciences departments and in the Center for Women's Studies, and Home Economics 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.

Students interested in graduate work should note that 82 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.

#### 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 Work 220, 220A.



Upper Division: Economics 300, Psychology 370, Sociology 320, Social Work 330, 331, 340, 340A, 342, 350, 351, 440, 441, 465, 495A,B.

**\*Sequence of Required Social Work Courses**

First Level: Social Work 220, 220A, 330, 350.

Second Level: Social Work 331, 340, 340A, 351.

Third Level: Social Work 342, 440, 495A.

Fourth Level: Social Work 441, 465, 495B.

Students who are planning to allow additional semesters for completion of the major may take Social Work 342 with a Practicum (342A) prior to entering the third level of courses. Since Social Work 342 may be offered only in fall semesters, students interested in this option should discuss arrangements for it with their adviser.

**Lower Division**

**220. Introduction to Social Welfare (3) F, S Lee, Faculty**

Historical and philosophical perspectives of social welfare services and practice; interrelationship of cultural, economic, political, psychological and social conditions. Overview of needs and methods of delivery of services. Social work majors must take this course concurrently with Social Work 220A. Open to non-social work majors.

**220A. Introduction to Social Welfare Practicum (2) F, S Faculty**

Prerequisite: Consent of instructor. Minimum of six hours weekly in an approved social service or allied setting. Social work field practice including observational, volunteer activities to aid career choices.

**Upper Division**

**330. Human Behavior and Social Environment: Birth through Adolescence (3) F, S Jones, Portner, Faculty**

Prerequisite: Psychology 100, Sociology 100 or consent of instructor. Examination of relationship of human behavior to the social environment. Integration of general systems and role theory and concepts of stigma. Implications for social work practice. Application to life cycles from birth through adolescence.

**331. Human Behavior and Social Environment: Young Adulthood through Old Age (3) F, S Portner, Faculty**

Prerequisite: Social Work 330 or consent of instructor. Examination of relationship of human behavior to social environment. Integration of general systems, role, and personality theory and concepts of stigma. Application to life cycles from young adulthood through old age.

**340. Social Work Practice I (3) F, S Granger, Jones, Faculty**

Prerequisites: Social Work 220, 220A, 330, consent of instructor. Concurrent enrollment in Social Work 340A. Social work as a helping process. Basic principles, common elements and generic frameworks for social work practice including interview techniques. Role of social workers in resolution of social, emotional and environmental problems and the relationship of social work intervention.

**340A. Social Work Practicum I F Faculty**

Prerequisite: Concurrent enrollment in Social Work 340. Minimum of six hours weekly experience in approved social service or allied setting. Social work field practice with interview experience. Participation in social work activities. May be taken once for credit with Social Work 340.

**342. Social Work Practice II (3) F, S Granger, Faculty**

Prerequisites: Social Work 331, 340, 340A, consent of instructor. Concurrent enrollment in Social Work 342A or 495A. Adaptation of generic frameworks of social work practice to generic approaches in working with individuals and families. Theories, techniques, activities, and role of social workers; differential approaches to assessment, intervention, and helping processes. (May be offered only in fall semester.)

**342A. Social Work Practicum II (3) F, S Granger**

Prerequisite: Concurrent enrollment in Social Work 342. Minimum of six hours weekly experience in an approved social service or allied setting. Social work field practice including assessment and intervention activities with client or family. May be taken once for credit with Social Work 342.

**350. Social Policy I (3) F, S Kelly, Faculty**

Social policy as defined in legislation and by judicial decisions affecting rights of individuals, minorities, families and the general welfare. Implications for social work practice. Open to non-majors.

**351. Social Policy II (3) F, S Kelly, Faculty**

Prerequisites: Social Work 220, 220A, 350 or consent of instructor. Policies, programs and issues related to social welfare institutions and major social welfare policies and programs. Current values and issues in social welfare policy.

**370. Social Services for Families and Children (3) S, even years Granger, Faculty**

Contemporary social welfare programs designed to meet the physical, psychological and social needs of families and children. Basic principles and methods of providing services, including the role of the social worker. Open to non-majors.

**371. Probation, Parole and Other Social Services in Corrections (3) S, odd years Faculty**

Contemporary governmental and private correctional services for offenders and the community. Includes probation, parole, institutional and community based programs. Historical background, principles of investigation, supervision, and treatment. Open to non-majors.

**372. Social Services in Health Settings—Medical (3) F, odd years Lee, Faculty**

Survey of medicine, modern hospitals, statutory health regulations and medical-social work. Consideration of acute and chronic disabilities and role of social workers in the delivery of service to patients, family and community. Open to non-majors.

**373. Social Services in Health Settings—Psychiatric (3) F, even years Faculty**

Survey of psychiatric concepts, mental health laws, regulations governing psychiatric social work and descriptions of mental health services. Consideration of acute and chronic mental and emotional dysfunctions and role of social workers in the delivery of services to patients, family and community. Open to non-majors.

**440. Social Work Practice III (3) F Portner, Faculty**

Prerequisites: Social Work 331, 340, 340A. Concurrent enrollment in Social Work 495A. Adaptation of generic frameworks of social work practice to generic group approaches. Analysis of dynamics, theories and principles underlying group practice. Programs, practice techniques and roles involved with groups.



**441. Social Work Practice IV (3) S Kelly, Faculty**

Prerequisites: Social Work 331, 340, 340A. Concurrent enrollment in Social Work 495B. Adaptation of generic frameworks of social work practice to generic approaches to community and institutional applications. Analysis of theories and principles underlying community practice. Adaptation of theories and activities to organizational contexts. Techniques and activities applicable to communities and neighborhoods.

**465. Research Methods in Social Work (3) F, S Lee**

Prerequisites: Social Work 340, 340A, 342, one course in elementary statistics. Must be completed concurrently with 495A or B. Introduction to research methods in social work and emphasis on evaluation of social work and community service programs.

**495A. Field Experience in Social Work (6) F Faculty**

Prerequisites: Social Work 331, 340, 340A, 350. Concurrent enrollment in Social Work 342 and 440, or concurrent enrollment in Social Work 440 and 465. Evidence of satisfactory malpractice disability insurance coverage. Open to seniors accepted for field work. Supervised practice experience in social welfare agencies and allied settings. Two hours weekly of campus seminar and 16 hours minimum (usually Tuesday and Thursday) in agency placement.

**495B. Field Experience in Social Work (6) S Faculty**

Prerequisites: Evidence of satisfactory malpractice disability insurance coverage; Social Work 342, 351, 440, 495A. Concurrent enrollment in Social Work 441 and 465. Must be taken immediately after 495A. Open to seniors accepted for field work. Supervised practice experience in social welfare agencies and allied settings. Two hours weekly of campus seminar and 16 hours minimum (usually Tuesday and Thursday) in agency placement.

**499. Directed Studies (1-3) F, S Faculty**

Prerequisite: Consent of instructor. Independent study of special topics under supervision of a faculty member.

# Sociology

## School of Social and Behavioral Sciences

**Department Chair:** Dr. Paul S. Ullman.

**Emeriti:** Audrey Fuss, William E. Hartman, George W. Korber, Nick Massaro, Alfred W. Sheets.

**Professors:** Cereseto, Dank, Fradkin, Harman, Hubbard, Leis, Penalosa, Smith, Ullman, Walker.

**Associate Professors:** Aarons, Halliwell, Lunceford, Parker, Richmond, Slawski, Turk.

**Undergraduate Adviser:** Dr. Michael Halliwell.

The primary purpose of the major in sociology is to develop the student's understanding of social phenomena. Courses are designed to provide insight into social processes and social systems. Sociology courses are suitable for fulfilling general education or elective requirements for students of other majors. In addition the major is intended to serve as preparation for careers in teaching, social and health services, urban and environmental studies, law, government service and related occupations. The major also provides training for advanced graduate work in sociology, social welfare and other social sciences. Sociology is also recommended as a second major or minor for students of all other social sciences; for the humanities, especially literature and theatre arts; for ethnic and area studies; for journalism and other various applied arts and sciences.

Students interested in sociology may also wish to consider the liberal studies major with a concentration in sociology. The Liberal Studies program is located elsewhere in this *Bulletin*. Detailed information about the concentration may be obtained from the Sociology Department office.

Courses selected to fulfill the requirements of the major may not also be used to fulfill the requirements of any General Education category.

**Major in Sociology for the Bachelor of Arts Degree (code 2-8560)**

**Lower Division:** Fifteen units of lower division are required. Students must have credit for Sociology 100, 142, 255, Anthropology 120 and Computer Studies 200. Computer Studies 210 may be substituted for Sociology 255.

**Upper Division:** Satisfactory completion of at least 51 semester units of college work is required before students will be accepted into upper division sociology courses. All majors are required to have a minimum of 30 upper division units in sociology. This must include credit for Sociology 300, 327, 335, 355, 356, 420, 455, 456, and six units of electives from other upper division courses.

A minor in another area of Social and Behavioral Sciences is recommended.

**Minor in Sociology (code 0-8560)**

A minimum of 24 units which must include:

*Lower Division:* Sociology 100, 142.

*Upper Division:* Sociology 335 and a minimum of 15 units selected from other upper division courses in sociology.

**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.

**135. Society and the Individual (3) F, S Lunceford**

Intended primarily for non-majors. Examines the social processes influencing the individual's development and behavior from infancy through the entire life cycle. Includes childhood personality development, self-images, social roles, peer influence, reference groups and social influence by occupational, political, ethnic and religious groups. Also analyzes the development of self-control and social control and social factors affecting attitude formation and 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.

**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. Not open to students with credit in Computer Studies 210. (Lecture 3 hours.)

**255. Elementary Statistics (3) F, S Fradkin, Halliwell, Harman, Hubbard, Smith, 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 Slawski**

Survey of the most recent information on dating, courtship, engagement, mate selection, areas of adjustment in marriage, parenthood, financial and homemaking problems.

**290. Special Topics in Sociology (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 six units.

**Upper Division****300. Sociological Analysis (3) F, S Penalosa**

Prerequisite: Sociology 100. Intensive application and critical analysis of sociological concepts and principles in professional and popular literature. Analysis of case study, field, experimental and survey materials are included. Emphasis will be placed on writing skills in sociology. This course should be completed during the first semester of upper division course work.

**320. The Family (3) F, S 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**

Socio-cultural position of women; a brief history of women's role and status; societal attitudes toward women's place in society. Open to both men and women.

**327. Social Order and Social Change (3) F, S Cereseto, Richmond, Slawski**

Prerequisite: Sociology 100. Introduction to classical and recent analysis of social order and social change. Study of institutions and organizational structure of social systems in the past and present and their effects on human life.

**335. Social Psychology (3) F, S Aarons, Dank, Penalosa, Slawski, Smith**

Prerequisite: Sociology 100 or Psychology 100. Examines social processes in personality development and the socialization process whereby the individual is integrated into social groups. Includes social influence of family, peers, reference groups and subcultures. Examines the impact of primary groups, social organizations and mass media on attitudes and behavior. Not available to students with credit in Psychology 351.

**336. Sociology of Small Groups (3) F, S Lunceford, Slawski, 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**

Juvenile delinquency as a recent social "invention;" extent and distribution; major explanatory theories ranging from classical to radical views; societal reaction; the juvenile justice system with emphasis on the contemporary trend toward diversion programs.

**349. Social Conflict and Public Policy (3) S, Even Years Halliwell, Smith**

Examination of policy options. Focus on factions, policy alternatives, and practical and political feasibility of proposed reforms. Topics covered include unemployment and inflation, tax reform, affirmative action, health care, abortion and birth control, crime and delinquency, and others.

**350. Population Structure and Problems (3) S, Odd years Harman**

Presents the basic demographic variables (fertility, mortality and migration) and methods (vital statistics and census). Historical and current trends in U.S. and world population composition, growth and movement are examined with particular attention to social processes.

**355. Introduction to Social Research (3) F, S Halliwell, Harman, Hubbard, Walker**

Prerequisite: Sociology 255 or 210 or consent of instructor. Basic research design. Principles of naturalistic methods and interviewing. Introduction to the use of census data and demographic methods. Analysis of the basis of social science explanations of behavior.

**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.

**\*410. Social Ecology (3) S, Even years Harman**

Prerequisite: Sociology 100. Analysis of interdependencies of elements of populations, environment, technology and social organization. Examines socio-ecological relationships currently and in historical perspective, in simple and complex societies. Presentation and analysis of world and U.S. problems in social ecology. A field research project will be required.

**419. Urban Sociology (3) S Stark**

Review and analysis of the changing urban scene: employment, conflicts between ethnic groups in the central cities, municipal government, flight to the suburbs, and the deteriorating urban tax base. Focus on possible strategies for urban revitalization and trends in the relationship between cities and society as a whole.

**420. Social Stratification (3) F, S Richmond**

Prerequisite: Sociology 100. Characteristics and functions of social stratification, especially in the United States. Different theoretical perspectives, how social class affects the opportunity structures, for income, upward mobility and various measures of "the good life" in America today.

**426. Sociology of Sexual Behavior (3) F, S Dank, Fradkin, Turk**

The social context of human sexuality; effects of socialization, social class, occupation and religion on sexual attitudes and behavior.

**435. Symbolic Behavior (3) F, 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**

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. Sociology of Prisons (3) S Aarons**

Prerequisite: Sociology 100. Role of the prison in society as viewed from perspectives ranging from classical to radical; the prison as a total institution; inmate-staff interaction and sub-cultures; imprisonment as "assault on the self;" the meaning of riots; the future of American prisons.

**445. Ethnic Group Relations (3) F, S Fradkin, Lunceford**

Patterns of ethnic group differentiation; world relationships between ethnic groups; accommodation and assimilation of minority groups in America.

**450. Marxist Sociology (3) S Leis**

Analysis of human behavior, society and social change from a Marxist perspective.

**455. Methods of Sociological Research (3) F, S Halliwell, Harman, Hubbard, Richmond, Smith, Turk, Walker**

Prerequisites: Sociology 100, 255 or 210, 355 and one upper division course in sociology. Scientific methods in sociology, their 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 Leis, 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 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.)

**462. Medical Sociology (3) S Lunceford**

In-depth sociological analysis of health care in the United States presented from a practical, interdisciplinary viewpoint. Utilizing a "holistic" approach, the course will emphasize topics of malpractice, national health care, insurance, mental health, hospital administration, pre-medical education and the physician-patient relationship.

**\*464. Sociology of Aging (3) F Harman**

Sociological perspective on the aging process, from the middle years through old age. Survey of theoretical perspectives, issues, institutions and research findings on aging. Focus on role and status changes with aging in U.S. Cross-cultural and ethnic differences will be explored. Social analysis of age-related policies and exploration of alternatives. Not open to students with credit in this subject under Sociology 490.

**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 Faculty**

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.



# Spanish-Portuguese

## School of Humanities

**Department Chair:** Dr. Beverly J. DeLong-Tonelli.

**Professors:** Cardenas, DeLong-Tonelli, Donahue, Inostroza, Trinidad.

**Associate Professors:** Archuleta, Cannon, Schmitt.

**Assistant Professor:** Vogel.

**Credential Advisers:** Dr. Alfonso Archuleta, Dr. Harold L. Cannon.

**Undergraduate Adviser:** Faculty

**Graduate Adviser:** Dr. Daniel Cardenas.

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 and the master of arts degree in linguistics. 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.

The Spanish-Portuguese Department offers graduate study leading to the master of arts degree in Spanish. The candidate is urged to observe the general requirements stated in this *Bulletin*, as well as the specific departmental requirements and to consult the graduate adviser throughout the course of study. In all upper division and graduate level courses, Spanish is the language used in all class discussion and written work, except for Spanish 300 and 412.

Students should also consult the *Graduate Student Handbook* of the department.

### **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 with a Major in Spanish (code 5-6816)****Prerequisites**

1. A bachelor of arts degree in Spanish, or;
2. A bachelor's degree with a minimum of 30 upper division units in Spanish, comparable to those required of a major in Spanish at this University. Deficiencies will be determined by the graduate adviser after consultation with the student and study of transcript records.

**Advancement to Candidacy**

1. Approval of a graduate program by the graduate adviser, the Departmental Graduate Committee and the Dean of Graduate Studies.
2. The candidate may file for advancement to candidacy after she/he has filed a transcript of credits or a change of objective form and completed the prerequisites. The candidate must file not later than one semester or summer session prior to completion of course requirements.

**Requirements for the Master of Arts**

1. Completion of a minimum of 30 units of approved upper division and graduate courses with a minimum of 24 units in Spanish.
2. A minimum of 15 units in the 500 and 600 series in Spanish, including Spanish 505 and 696. Spanish 697 (or, in special cases, 698) is required of all candidates.
3. A reading knowledge of French, German, Italian, Latin, Portuguese or Russian. Another language may be substituted for one of the preceding only under special circumstances. The Graduate Student Foreign Language Test is acceptable with a score of 500 or better. Examinations not provided by GSFLT will require a grade of "B" or better. A major or minor in the respective language, if so determined by the Graduate Committee of the Department, may be used to fulfill this requirement.
4. A comprehensive examination is required of all candidates. Contact the department office for further information.

**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) 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 García 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.)

**320. Classroom Vocabulary for Elementary Bilingual Teachers (3) F Faculty**

Prerequisite: Spanish 313 or consent of instructor. Development and application of vocabulary for teaching elementary school subject matter in Spanish and application of that vocabulary in actual teaching situations.

**321. Classroom Vocabulary for Secondary Bilingual Teachers (3) S Faculty**

Prerequisite: Spanish 313 or consent of instructor. Development of the necessary vocabulary for teaching secondary school subject matter in Spanish and application of that vocabulary in actual teaching situations.

**335. Introduction to Spanish Literature I (3) F,S Cardenas, DeLong-Tonelli, 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, Cardenas, DeLong-Tonelli, 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 Spanish American literature from 1492 to 1870.

**338. Introduction to Spanish American Literature II (3) F,S Archuleta, Donahue, Inostroza, Schmitt**

Prerequisite: Upper division standing in Spanish. From 1870 to the present time.

**\*410. Introduction to Literary Analysis (3) S Cardenas, 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.

**412. Art of Translation (3) S Faculty**

Prerequisites: Spanish 313 with a grade of B or better, consent of instructor. Seminar in lexical, syntactical, stylistic, cultural problems of translation. Spanish to English, English to Spanish. Analysis of selected translated texts. Practice in effective translating.

**\*425. Spanish Phonetics and Phonology (3) F, S Cardenas, Trinidad, Vogel**

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 Cardenas, Trinidad, Vogel**

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 Cardenas, Trinidad, Vogel**

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 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, Schmitt**

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.

**\*451. Spanish American Novel II (3) S Archuleta, Inostroza, Schmitt**

Prerequisite: Spanish 338 or consent of instructor. Study of the Spanish American novel from 1930 to the present.

**\*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 nineteenth century Spanish novelists.

**\*457A. Spanish American Short Story (3) S Donahue, Schmitt**

Prerequisite: Spanish 338 or consent of instructor.

**\*457B. Spanish American Essay (3) S Inostroza, Schmitt**

Prerequisite: Spanish 338 or consent of instructor.

**\*459. Twentieth Century Spanish Novel (3) S 1982 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 Trinidad**

Prerequisite: Spanish 335 or consent of instructor. Spanish drama from Juan del Encina to Calderon de la Barca.

**490. Special Topics (3) F, S Faculty**

Study of a particular aspect of Spanish literature, language or culture. See *Schedule of Classes* for specific topics. May be repeated for a maximum of nine units as long as topics are different each time. Traditional grading only.

**\*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) F Cardenas, Trinidad**

Prerequisite: One course in Spanish linguistics or consent of instructor. Analysis of written and spoken Spanish from its inception through its current use in the Hispanic world.

**515. Romance Linguistics (3) S, odd years Cardenas, Inostroza, Trinidad**

Prerequisite: Spanish 505 or equivalent. Methods used in Romance philology and linguistics; origin and evolution of Romance languages; comparative characteristics of Romance languages.

**520. Modernismo in Spanish American Literature (3) F, odd years Inostroza**

Origin and development of the *Modernista* Movement in poetry and prose during the period 1880-1920.

**521. Contemporary Spanish American Poetry (3) F Inostroza**

Study of representative Spanish American poets from 1920 to the present.

**535. Spanish Medieval Literature (3) S, even years Cardenas, Trinidad**

Prerequisite: Spanish 505. Medieval literature from the recently discovered "muwashahas" (lyric poetry) to the Golden Century.

**538. Spanish Poetry of the Golden Age (3) F DeLong-Tonelli**

Study of traditional ballads, Renaissance and Baroque poetry with emphasis on Garcilaso, Gongora and other poets.

**540. Spanish American Drama (3) S Donahue, Inostroza**

Analysis of major works of ranking Spanish American playwrights.

**555. Mexican Novel (3) S, even years Archuleta, Inostroza, Ramirez**

Intensive study of the major Mexican novelists from Lizardi to Carlos Fuentes.

**585. Contemporary Spanish Poetry (3) S DeLong-Tonelli, Trinidad**

Study of the most representative contemporary Spanish poets.

**590. Special Topics (3) S Faculty**

Study of a particular aspect of Spanish literature, language or culture. See *Schedule of Classes* for specific topic. May be repeated for a maximum of nine units as long as topic is different each time. Traditional grading only.

**639. Seminar in Hispanic Studies (3) S Faculty**

Concentration on a specific literary or linguistic problem. May be repeated once with a different topic.



**696. Bibliographical Methods of Research (3) F Faculty**  
Introduction to methods of research, scholarly writing.

**697. Directed Research (1-3) F,S Faculty**  
Prerequisites: Spanish 696, consent of department chair. Individual study under the guidance of a faculty member.

**698. Thesis (2-4) F,S Faculty**  
Prerequisites: Spanish 696, consent of Graduate Committee and department chair. Planning, preparation and completion of thesis in Spanish for the master's degree. Does not count toward 30 units required for the M.A. degree.

## 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.

**399. Directed Studies in Portuguese (3) F Archuleta, Schmitt**  
Prerequisite: Portuguese 101A-B or consent of instructor. Practical application of the fundamental principles of grammar.

**499. Directed Studies in Portuguese (3) S Schmitt**  
Prerequisite: Portuguese 399 or consent of instructor. Individual directed projects or readings.

# Special Major

## (INTERDISCIPLINARY STUDIES)

**Director:** Dr. William Svec.

### 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 Academic Advising Center 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 Academic Advising Center, Library E-106. The director is Dr. William Svec, Library E-106.

#### Master of Arts Degree (code 5-0405) and Master of Science Degree (code 6-0405) in a Special Major

A student may submit a proposal for a degree program leading to the Master of Arts or Master of Science degree in a special major (interdisciplinary studies) when special needs and interests cannot adequately be met by any of the existing graduate degree programs offered by the University. The proposed program must not be substantially available within any existing graduate programs offered at CSULB and must have adequate focus and coherence in cognate disciplines. The degree program is administered by the Dean of Graduate Studies. Procedural guidelines and forms are available in the Academic Advising Center, Library E-106.

#### Prerequisites

1. A bachelor's degree.
2. Twenty-four units of preparatory (prerequisite) course work, selected in consultation with the student's graduate committee. The preparatory (prerequisite) coursework must be listed on the *Prerequisite Sheet* which accompanies the *Application for a Master's Degree in the Special Major*. This work must have been completed by the student with a minimum 3.0 g.p.a. after attaining junior standing at an accredited college or university, or be completed with a minimum 3.0 g.p.a. prior to advancement to candidacy for the degree.

#### Advancement to Candidacy

To satisfy the general requirements of the University and the special requirements for the Master of Arts or Master of Science degree in a special major, the student must comply with the following procedures:

1. Convene a graduate committee to consist of a minimum of three tenured/tenure-track faculty members at CSULB and that the Chairperson of the committee must be a member of the department approved to grant a graduate degree.
2. Secure approval for the *Application for a Master's Degree in the Special Major* by (a) all members of the graduate committee, (b) the Chair/Graduate Adviser of the primary department or designated area of study, (c) the Special Major adviser, (d) the School Dean (or designee) of the primary department or designated area of study, and (e) the Dean of Graduate Studies.
3. Consult with the members of the committee to insure: (a) compliance with any unique guidelines of the degree-issuing department or school (the department of the student's graduate committee chair), (b) that all preparatory (prerequisite) course work has been satisfactorily completed and that the *Prerequisite Sheet for the Master's Degree in the Special Major* reflects this, (c) that all transcripts have been filed with the Admissions Office and that a complete set of them are available to the committee for their inspection, (d) that the *Statement of Rationale* is complete and acceptable, and (e) that the *Application for the Master's Degree in the Special Major* conforms to the University regulations and the Requirements for the Master's Degree in a Special Major.
4. Include no more than nine units of completed course work on the *Application for a Master's Degree in the Special Major* prior to submission of the above *Application*.

#### Requirements for the Master of Arts

Applications for a Master's Degree in the Special Major are provided by the Academic Advising Center, Library E-106. A program must be prepared to conform to University regulations. Requirements for the Master's degree are as follows:

1. The special major degree program must include not less than 30 upper division and graduate level units approved by all the student's graduate committee members, Chair/Graduate Adviser of the primary department or designated area of study, Special Major adviser, the School Dean (or designee) of the primary department or designated area of study, and the Dean of Graduate Studies.
  - a. No less than 18 units shall be in the 500/600 level series.
  - b. A minimum of 15 units shall be completed within a primary department or designated area of study.
  - c. No more than six units in any one or combination of:
    - (1) Approved CSULB extension. No extension class credit earned at another college may be used to satisfy degree requirements. Extension credit may not be used to reduce the minimum units required in the program, nor may excess grade points earned in extension classes be used to offset a grade point deficiency in the total graduate program.
    - (2) Transfer credit.
2. A thesis or comprehensive examination will be completed in partial fulfillment of the requirements for the master of arts degree in the special major. The selection of the thesis or comprehensive option will be made by the graduate committee in consultation with the student.
3. Students electing the thesis shall enroll for thesis credit in the department of the committee thesis chair.
4. No more than three units of independent study (e.g. Directed Readings, Directed Studies, Independent Studies, Special Studies, Advanced Studies, Directed Research, etc.) may be included in the *Application* submitted.
5. A favorable vote of the faculty of the department of the thesis or comprehensive chair and the graduate advisers in the departments represented on the student's committee is required before the degree may be conferred.

#### Requirements for the Master of Science

The requirements for the M.S. degree in a Special Major shall be the same as the M.A. degree in a Special Major with the following exception:

1. A thesis in the primary department is required.

**NOTE: FORMAL ADMISSION TO THE GRADUATE SPECIAL MAJOR PROGRAM OCCURS ONLY UPON ADVANCEMENT TO CANDIDACY FOR THE DEGREE.**

# Speech Communication

## School of Humanities

**Department Chair:** Dr. Richard E. Porter.

**Emeriti:** Dale D. Drum, Joseph A. Wagner.

**Professors:** Anatol, Applbaum, Briggs, Buck, Cain, Castleberry, Hauth, Hays, Howe, Jenson, Loganbill, Porter, Powell, Shanks, Skriletz, Wills.

**Associate Professors:** Healy, Rogers, Yousef.

**Credential Advisers:** Dr. Nancy Briggs, Dr. Dorothy J. Skriletz.

**Undergraduate Adviser:** Dr. Richard E. Porter.

**Graduate Adviser:** Dr. Earl R. Cain.

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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*.



**Master of Arts Degree in Speech Communication**

The Department of Speech Communication offers graduate study leading to the master of arts degree in speech communication. A basic core of communication studies, rhetorical studies and research methods is required, but there also is opportunity for additional work in small group communication, interpretive communication of literature, reader's theatre, communication education or forensics according to special interests of students.

Several teaching assistant positions in speech communication are available. Interested students should make application to the department chair.

**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 either 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 with a Major in Speech Communication (code 5-6841)****Prerequisites**

1. A bachelor's degree with a major in speech communication to include Speech Communication 435, 440, 446 and 448 or their equivalents, or:
2. A bachelor's degree with 24 units of upper division work in speech communication, including the courses listed above or their equivalents. Deficiencies may be made up concurrently during the first two semesters of graduate work.
3. Graduate students must consult with the departmental graduate adviser for information concerning procedures and requirements for approval of their course of study prior to enrolling in their graduate program.

**Advancement to Candidacy**

1. Removal of all undergraduate deficiencies.
2. Completion of at least six units of 500 and/or 600 level courses including 696 with a minimum grade point average of 3.0.
3. A graduate program approved by the student's faculty adviser, Graduate Committee and department chair.

**Requirements for the Master of Arts**

1. A minimum of 30 units in upper division and graduate courses approved by the student's faculty adviser and the Department Graduate Committee to include:
  - a. A minimum of 24 units of upper division and graduate work in speech communication;
  - b. Six units of electives in any approved area, with the exception that student teaching and special methods courses may not apply.
2. The above 24 units of speech communication must include a minimum of 21 units of graduate work in the 500 and 600 series composed of the following:
  - a. Speech Communication 696 to be completed as early as possible in the graduate program and prior to advancement to candidacy.
  - b. Speech Communication 540, 546; one course selected from Speech Communication 639 or 640A,B,C; one course selected from Speech Communication 646A,B,C,D,F.
  - c. Nine elective units of 400, 500, or 600 level course work approved by the student's faculty adviser and the Department Graduate Committee. Only three of these nine units may be selected from among 400 series courses.
  - d. Speech Communication 698 (4 units) if the thesis option is elected.
  - e. Speech Communication 697 (1 unit) if the comprehensive examination is elected.
3. Satisfactory completion of a thesis or comprehensive written examination.

**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. Small Group Discussion (3) F, S Faculty**

Basic principles and techniques of discussion. Relationship of discussion to democratic processes and contemporary society including a study and practice of critical thinking and problem-solving techniques in various group discussion settings.

**133. Elements of Oral Interpretation (3) F, S Faculty**

Theory and practice in the oral interpretation of prose and poetry.

**200. Nonverbal Communication (3) F, S Hays**

Basic characteristics of the nonverbal elements of human communication in the oral communication setting.

**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, Powell, Rogers**

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. Small Group Communication (3) F, S Faculty**

Emphasizes development of communication skills for participation in small group problem-solving interaction; consideration of group structure and dynamics as they relate to small group communication participation.

**333. Communicative Interpretation of Literature (3) F, S Buck, Loganbill, Shanks**

Derivation of meaning in various literary forms and its communicative 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, Rogers, 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, Hauth, Hays, Jensen, Rogers, Skrlitz, 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, Skrlitz**

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.

**\*432. Small Group Communication Leadership (3) F Anatol**

Emphasizes development of leadership skills in small group problem-solving communication environments; leadership theories, techniques and strategies of problem-solving and decision-making as they apply to leadership in small group communication.

**\*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 Hays, Jensen, 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 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**

Comparison and contrast of famous American speakers and their techniques, effects and environments from the colonial period to present.

**\*437. Communication Strategies of European Speakers (3) F Briggs, Buck, Castleberry, Howe, Wills**

Comparison and contrast of famous European speakers and their 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 Hays, Jenson, Porter**  
Conceptual frameworks in communication theory; application of learning, motivation, perception and related theories to the study of speech.
- \*447. Measurement in Communication Theory (3) F, S 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.
- \*448. Language and Symbolic Processes (3) F, S Briggs, Hauth, Jenson**  
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, Jenson, Porter, Yousef**  
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**  
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) S Howe**  
Prerequisite: Consent of instructor. Principles of constructing and administering a forensic program, including recruiting, squad direction, budgeting, tournament policies and current literature on forensic direction. Not open to students with credit in Speech Communication 431.
- 540. Modern Rhetorical Theory (3) F Cain, Hauth**  
Prerequisite: Consent of instructor. The rhetorical theory of British and American rhetoricians since 1750.
- 546. Issues in Communication Studies (3) S Jenson, Porter**  
Prerequisite: Consent of instructor. Investigation and evaluation of contemporary research dealing with intra-personal and sociocultural communication systems; nonverbal communications; language and symbolic systems; persuasion and attitude change; contributions to human communication theory from other disciplines; and current trends and directions in communication research.

- 590. Special Topics in Speech Communication (3) F Faculty**  
Prerequisite: Consent of instructor. Investigation of topics of current interest and concern to students in speech communication and allied areas. Topics will be announced in the *Schedule of Classes*. May be repeated for credit with different topics, but no more than six units may count toward the master's degree in speech communication.
- 632. Seminar in Small Group Communication (3) S Anatol**  
Prerequisite: Consent of instructor. Research in small group discussion.
- 633. Seminar in Communicative Interpretation (3) F Loganbill**  
Prerequisite: Consent of instructor. Theories of communicative interpretation of literature, with emphasis upon the theory and evaluation of oral presentation of literature as an art form and a pedagogical instrument.
- 639. Seminar in Rhetorical Theory and Criticism (3) S Cain, Hauth, Powell**  
Prerequisite: Consent of instructor. Presentation and discussion of advanced research in the principal concepts and issues of rhetorical theory and criticism.
- 640. Seminar in Rhetorical Studies (3) S Faculty**  
Prerequisite: Consent of instructor. Presentation and discussion of advanced concepts and research in the following areas: (a) ancient public address, (b) British and European public address, and (c) American public address. Offered areas will be announced in the *Schedule of Classes*. May be repeated for credit but is limited to three units in any one area and to six units toward the master's degree.
- 646. Seminar in Communication Studies (3) F, S Faculty**  
Prerequisite: Consent of instructor. Presentation and discussion of advanced research in the following areas: (a) persuasion and attitude change, (b) organizational communication, (c) intercultural communication, (d) nonverbal communication, (f) language and symbolic processes. Offered areas will be designated in the *Schedule of Classes*. May be repeated for credit but is limited to three units in any one area and to six units toward the master's degree.
- 647. Seminar in Experimental Methodologies (3) S Jenson, Porter**  
Prerequisite: Speech Communication 447 or consent of instructor. Advanced work in scientific approaches to the study of speech communication; the problems of measurement, quantification, and measuring instruments; theory and design of scientific research, and analysis of findings.
- 650. Seminar in Communication Education (3) S Hays, Skriletz**  
Prerequisite: Consent of instructor. Advanced studies in historical and contemporary theories and problems in speech communication pedagogy.
- 696. Research Methods (3) F, S Cain, Porter, Skriletz**  
Methodological problems involved in graduate research. Bibliographical problems and library research, location and use of original sources, special speech research techniques of a descriptive, historical and experimental nature.
- 697. Directed Research (1-3) F, S Faculty**  
Prerequisites: Approval of department graduate committee, consent of instructor. Directed research leading to the definition and discussion of a selected problem or issue in speech communication and the presentation of research results in a formal paper submitted to the department. (Required of all candidates for the master's degree not electing a thesis option.)
- 698. Thesis (2-4) F, S Faculty**  
Prerequisites: Speech Communication 696, consent of the department. Preparation, completion and submission of an acceptable thesis in partial fulfillment of the requirements for the master's degree.



# Teacher Education

## School of Education

**Department Chair:** Dr. Doris Dee Tabor.

**Emeriti:** John H. Ames, Roy C. Anderson, R. Burdette Burk, William E. Fisher, Juliane T. Gensley, Frank F. Gorow, Marion R. Johnston, Oliver P. Johnstone, Kephias A. Kinsman, Daniel C. McNaughton, Wallace H. Moore, Walter A. Nagle, Leo T. Phearman, Howard C. Rolfe, Arlene A. Roster, Olive L. Thompson.

**Professors:** Cahn, Graham, Jamgochian, Jersin, Jones, Koppenhaver, Lass-Kayser, Myers, Perry, Popham, Rodney, Tabor, Tarrow.

**Associate Professors:** Beck, Gold, Hidalgo, Krause, Marrs, Morris, Newcastle, Nieto, Olguin, Sugimoto.

**Assistant Professor:** Chan.

**Credential Program Coordinators:**

Bilingual Cross Cultural: Dr. Francisco Hidalgo.

Early Childhood: Dr. Charles Myers.

Field Programs: Dr. Charles Myers.

Reading: Dr. Helen Newcastle

**Graduate Degree Program Coordinators:**

Elementary: Dr. Leland Perry.

Secondary: Dr. Harold Graham.

For degree requirements see **Education**.

The Department of Teacher Education offers professional education coursework that leads to the (a) Multiple Subjects Credential (elementary) and the (b) Single Subject Credential (secondary). In addition, programs are provided for advanced credentials in specializations of (a) Early Childhood Education, (b) Bilingual/Cross-Cultural and (c) Reading — for grades 12 and below. Courses for preschool teachers are also available.

Master of Arts degrees in Education with the following specializations are offered: (a) Early Childhood Education, (b) Elementary Curriculum and Instruction, (c) Secondary Curriculum and Instruction and Evaluation, (d) Elementary Reading, and (e) Secondary Reading.

## Elementary Education

### Upper Division

**\*310. The Elementary School in American Society (3) F 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 Jones, Rodney Tarrow**

Strategies for providing learning environments conducive to creative expression, problem solving and developmental activities appropriate for children five to eight years of age. Analysis of books, materials and equipment suitable for young children. Field work.

**\*421. History and Philosophy of Early Childhood Education (3) F, S Jones, Rodney, Tarrow**

Historical, philosophical and psychological foundations of early childhood education and their relationships to current trends. Overview of the field of early childhood education. Analysis of various programs. Field Work. Not open to students with credit in Elementary Education 321.

**\*422. Curriculum for Young Children (3) F, S Rodney, Tarrow**

Curriculum and teaching-learning processes for children from infancy to age five in a variety of early childhood settings. Establishment of optimal environments; varied activities appropriate to developmental age; selection and creation of materials. Field work. Not open to students with credit in Elementary Education 322.

**\*423. Supervision of Preschool Programs (3) S 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 Rodney, Tarrow**

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. CR/NC only.

**\*430. Teaching in Cross-Cultural Settings (3) F, S Chan, Olguin, Rodney**

Teaching strategies and activities for children of varied socio-cultural backgrounds with emphasis on problem solving, self concept, language, and cognitive development. Planning appropriate learning environments. Development and evaluation of multi-cultural materials. Techniques in dealing with conflict in effective ways. Field work. This course meets the requirements of Article 3.3 of the State Education Code.

**\*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. Five hours of field work required.

**\*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. Ten hours of field experience required.

**\*451. Measurement and Evaluation in Reading (3) F, S Koppenhaver, Perry**

Prerequisite: 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 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. Five hours of field experience required.

**\*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. Five hours of field experience required.

**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 university adviser. CR/NC only. Application should be made by March 1 for the fall semester and October 1 for the spring semester.

**481. Student Teaching in the Elementary Grades (2-12) F, S Faculty**

Prerequisites: El. Ed. 440, 450, 460, 470 and official admission by the Elementary 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. Application should be made by March 1 for the fall semester and October 1 for the spring semester. CR/NC only.

**\*490. Special Topics in Elementary Education (1-3) F, S 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. May be repeated for credit to a maximum of six units with no more than three units applicable to credential or major requirement.

## Graduate Division

**520. Individualization of Learning, Organization and Management (3) F,S  
Jones, Rodney, Tarrow**

Prerequisites: Ed. Psych. 301, El. Ed. 420, teaching experience or consent of instructor. Diagnosis and prescription in cognitive, affective and psychomotor areas. Formal and informal assessments. Alternative activities appropriate to the development of students. Development of an individualized education program. Continuous progress record keeping, evaluation and differentiated staffing are studied. Field work.

**522. Parent Education and Involvement in Educational Environments (3) F,S  
Rodney, Tarrow**

Analysis of trends, issues, programs and practices pertaining to parent education and involvement. Emphasis on early childhood and multi-cultural environments. Field work.

**523. Supervision of Early Childhood Programs (3) F Rodney, Tarrow**

Prerequisite: Consent of instructor. Supervision and coordination of early childhood education (E.C.E.) programs; staffing and in-service development; directing total program; preparing budgets and program proposals, working with parents and community resources. Field work.

**540. Problems in Teaching the Language Arts in the Elementary School (3) S  
Gold**

Prerequisites: El. Ed. 440, teaching experience. Advanced study of teaching procedures, evaluation, materials, research, and trends in the language arts. Emphasis on problems in the classroom. Includes individual research.

**550. Problems of Teaching Reading (3) F,S Lass-Kayser**

Prerequisites: El. Ed. 450, teaching credential or consent of instructor. Advanced study of teaching procedures, materials, trends, evaluation, with emphasis upon research. Designed for classroom teachers as well as reading specialists.

**551. Diagnosis and Correction of Reading Disabilities (3) F,S Koppenhaver,  
Tabor**

Prerequisites: El. Ed. 450 or Sec. Ed. 459, credentialed teaching experience or consent of instructor. Access to school-aged children essential. Examination of formal and informal diagnostic procedures useful in prescription and remediation. Preparation of individual education programs and intensive study of disabled reader, culminating in case study with appropriate corrective instruction.

**553. Personalized Reading Instruction (3) F,S Chan, Tabor**

Prerequisites: El. Ed. 450, graduate standing. Principles, practices and procedures using personalized teaching materials and evaluative devices. Development of individual education programs for reluctant and disabled readers as well as able readers. Focuses on ethnic literature as a vehicle for personalizing instruction.

**554. Competency in Teaching Reading (2) F Newcastle, Tabor**

Prerequisites: El. Ed. 450, a valid California teaching credential, one year of successful teaching experience. Required for those pursuing the State Reading Specialist Credential. An appraisal of each candidate's competencies in areas of theory, diagnosis, measurement, prescription, methods/materials, professional literature, motivation and professional involvement.

**556. The Reading Process (3) F,S Newcastle, Tabor**

Prerequisites: El. Ed. 450 or Sec. Ed. 459, El.Ed. 554 or Sec.Ed. 554, a valid California teaching credential. Designed for Reading Specialist Credential candidates and others interested in an in-depth study of the complex nature of the reading process. Examination and analysis of the interrelationships between

physiological, psychological, linguistic, intellectual and environmental correlates of the reading-learning process. Survey and analysis of research, reading theories, and reading models.

**558. Linguistics for Reading Teachers (3) F,S Lass-Kayser, Olguin**

Prerequisites: El. Ed. 450; Sec. Ed. 459; El.Ed. 554 or Sec. Ed. 554; a valid California teaching credential, one year of teaching experience or its equivalent and graduate standing. Designed for candidates enrolled in the Reading Specialist Credential program and others interested in studying linguistics as related to reading instruction. Examination of pertinent research, small discussion groups, resource persons, lectures, field trips and audio-visual presentations will be utilized in the course. Includes the integration of theory and application of linguistics in the classroom with focus on phonology, morphology, syntax, semantics and suprasegmentals as they relate to reading instruction.

**560. Problems of Teaching Elementary Mathematics (3) F Perry**

Prerequisites: El. Ed. 460, teaching experience. Advanced study and research in elementary school mathematics. Emphasis on content, methods and materials. Includes individual research.

**570. Problems of Teaching the Social Studies in the Elementary School (3) F  
Jones**

Prerequisites: El. Ed. 470, teaching experience. Advanced study of teaching procedures, materials, research, trends, and problems in the social studies. Includes individual research.

**590. Special Problems in Elementary Education (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Advanced study of special topics and problems in elementary education. A student may enroll for one-three units to a maximum of six units for certificate and degree purposes, subject to suitable change in course content. Non-degree and non-certificate students may enroll for additional units subject to suitable change in course content.

**621. Research Seminar in Early Childhood Education (3) S Rodney, Tarrow**

Prerequisites: Ed. Psych. 301 or equivalent, El. Ed. 420, 520, teaching experience. Advanced study of research in early childhood education, infancy to eight years. Relevant research pertaining to child development, curriculum and related areas. Knowledge of appropriate evaluation for young children in the cognitive, affective and psychomotor domains. Interpretation of testing protocols. Field work.

**653A,B. Seminar and Clinical Laboratory in Reading Disabilities (3,3) F,S  
Koppenhaver, Tarrow**

Prerequisites: El. Ed. 450 or Sec. Ed. 459 and El. Ed. 551. Specialized course designed to service advanced students with study and laboratory experience in diagnosis and remedial reading procedures. Part of the Reading Specialist program. Includes study groups, research, laboratory clinic experience, diagnostic testing and evaluation. (Seminar, 10 hours weekly laboratory practice for each section, daily instruction in case study and diagnosis.)

**655. Seminar in Reading Curriculum and Supervision (3) F,S Koppenhaver,  
Newcastle**

Prerequisites: El. Ed. 551 or Sec. Ed. 555, credentialed teaching experience, acceptance into the Reading Specialist Program. Advanced study and research concerning curriculum development and supervision of instruction with emphasis on program and staff development. Not open to students with credit in El. Ed. 552.

**660. Advanced Field Work in Reading (3) F,S Koppenhaver, Newcastle,  
Tabor**

Prerequisites: Completion of all other required courses in the Reading Specialist Credential Program. Applications should be made by March 1 for the fall semester and October 1 for the spring semester. In-the-field participation, individual



conferences and seminars directed toward the solution of problems evolving from reading programs, instruction and supervision.

**681. Advanced Field Experiences in Early Childhood (4) F,S Rodney, Tarrow**

Prerequisite: Approval by Early Childhood Education area committee. Written application should be made by October 1 for spring semester and March 1 for fall semester and summer. Supervised field experiences with children. Experiences will be offered at pre-kindergarten, kindergarten and primary levels and in multi-cultural settings as needed. Meets requirement for Early Childhood Specialist Instructional Credential. A maximum of four units only allowable toward master's degree program. May be repeated for a maximum of 16 units.

**695. Seminar in Elementary Education (3) F,S Faculty**

Prerequisites: Advancement to candidacy, permission of graduate adviser and written application. Consideration of curriculum, role of the school, and topics related to effectiveness and excellence in education. For qualified candidates preparing to write the comprehensive examination.

**697. Directed Research (1-3) F,S Faculty**

Prerequisites: Consent of instructor, department chair and associate dean. Individual research or intensive study under the guidance of a faculty member. A student may enroll for one-three units to a maximum of three units for certificate and degree purposes, subject to suitable change in course content. Application for enrollment must be made by April 15 for the fall semester or by November 15 for the spring semester.

**698. Thesis (1-6) F,S Faculty**

Prerequisites: Advancement to candidacy, Ed. Psych. 696, approval by director, department chair and associate dean. Planning, preparation and completion of a thesis under supervision of a faculty committee. Must be taken for a minimum of four units. Application for enrollment must be made by April 15 for the fall semester or by November 15 for the spring semester.

## Secondary Education

### Lower Division

**157. Individualized Reading Program (3) F,S Faculty**

A reading program that is structured to meet the needs of those students who require 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. Secoschool pupil development, effects of culture, sociological factors affecting schools, curriculum, controversies about education, problems of secondary education. Cross-cultural field experience is included.

**\*401. Principles of Adult Education (3) F Marris**

Scope and functions of adult education, characteristics of the adult learner, philosophical and historical perspectives, future trends. Meets the requirement for the Designated Subjects Credential in Adult Education.

**\*402. Methods and Materials of Adult Education (3) S Marris**

Objectives, curriculum, methods and materials used in teaching adult education. Meets the requirement for the Designated Subjects Credential in Adult Education.

**\*403. Principles and Methods of Tutoring Adults (3) F,S Marris**

Training in teaching and tutoring adults, all subjects. May be applied to the Designated Subjects Teaching Credential in Adult Education.

**\*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.

**\*435. Cross-Cultural Education in United States Society (3) F,S Hidalgo, 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 Faculty**

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 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) F,S 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. May be repeated for credit to a maximum of six units, with no more than three units applicable to credential or major requirement.

## Graduate Division

**520. Advanced Studies in Secondary School Instruction (3) F Jersin**

Prerequisites: Sec. Ed. 421, or equivalent, teaching experience. Intensive study of current problems in secondary school teaching, emphasizing applications of research. Includes analysis of new emphases, media and techniques.

**536. Bilingual Curriculum Development (3) F Hidalgo**

Prerequisites: Candidacy in Bilingual Specialist Program or consent of instructor, current employment in bilingual education. Analysis of the Ideological basis for bilingual education. Survey of bilingual instructional modes. Update on related legislation. Critique of language dominance and proficiency assessment. Conducted in Spanish.

**540. Advanced Studies in Secondary School Curriculum (3) S Popham**

Prerequisites: Sec. Ed. 310, 421 or equivalent, teaching experience. Individual and group investigation of recent literature, research, and courses of study in various curricula. Includes examination of experimental programs, trends and forces in secondary education and work in curriculum laboratory.

**554. Competency in Teaching Reading (2) F,S Graham**

Prerequisites: El. Ed. 450, Sec. Ed. 457, a valid California teaching credential, one year of successful teaching experience. Required for those pursuing the State Reading Specialist Credential. An intensive appraisal of each candidate's competencies in areas of theory, diagnosis, measurement, prescription, methods/materials, professional literature, motivation and professional involvement.

**555. Reading Diagnosis and Remediation (3) F,S Graham**

Prerequisites: Sec. Ed. 459, consent of instructor. Experience in using modern techniques to diagnose and treat reading disabilities at the secondary level and higher. Both group and individual, formal and informal tests are studied. Opportunity is given to diagnose and treat a reading disability case under supervision.

**557. Problems in Secondary Reading Instruction (3) S Graham**

Prerequisites: Sec. Ed. 459 or equivalent, teaching experience. Advanced study of teaching procedures in secondary, college and adult reading programs. Individual investigation of specific classroom problems. Emphasis upon research, trends and current issues.

**560. Evaluation of Curriculum and Instruction (3) F Marrs**

Prerequisites: Sec. Ed. 421 or equivalent, teaching experience. Methods of evaluating the effectiveness of curriculum and instruction which will include the assessment and improvement of teacher achievement.

**581A,B,C. Directed Field Experiences in Bilingual Cross-Cultural Education (3,3,3) F,S Hidalgo, Nieto, Olguin**

Prerequisite: Admission to the Bilingual/Cross-Cultural Specialist Credential Program. Supervised field experience with minority youth in the public school and community setting. Application should be made by March 1 for the fall semester and October 1 for the spring semester.

**583A-B. Student Teaching in the Community College (3,3) F,S Conroy**

Open only to Community College Credential Candidates accepted by the Secondary Teacher Education Committee. Student will teach one three-hour class in her/his major field in a community college and have an additional assignment of three hours per week, for scheduled observation, consultation with students, or small group teaching or laboratory. 583B may be taken for experience in minor field. Application should be made by March 1 for the fall semester and October 1 for the spring semester.

**590. Special Problems in Secondary Education (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Advanced study of special topics and problems in secondary education. A student may enroll for one-three units to a maximum of six units for certificate and degree purposes, subject to suitable change in course content. Non-degree and non-certificate students may enroll for additional units subject to suitable change in course content.

**657. Clinical Practices in Secondary Reading (3) F,S Graham**

Prerequisites: Sec. Ed. 555, consent of instructor. Practice in working with individual cases or small groups of retarded readers in classroom and laboratory settings. Clinical study of reading problems including perceptual, neurological, psychological and educational factors. Critical appraisal and practice with current recommended methods.

**659. Seminar in Secondary Reading (3) F,S Graham**

Prerequisites: Advancement to candidacy, consent of graduate adviser. Advanced studies in secondary reading including library research, research papers and oral examinations. Required of all master's degree candidates preparing to write the comprehensive examination for the M.A. degree in education, emphasis in secondary reading.

**660. Advanced Field Work in Reading (3) F,S Graham**

Prerequisites: Sec. Ed. 657, 659, approval by the Reading Committee. Applications should be filed in the office of the Department of Secondary Education by March 1 for the fall semester and October 1 for the spring semester. In-the-field participation, individual conferences and seminars directed toward the solution of problems evolving from reading programs, instruction and supervision.

**695. Seminar in Secondary Education (3) F,S Jersin**

Prerequisites: Advancement to candidacy, consent of graduate adviser. Advanced studies in secondary education including library research, research papers and oral examinations required of all master's degree candidates preparing to write the comprehensive examination for the M.A. degree in education, emphasis in secondary education, specialization in single-subject.

**697. Directed Research (1-3) F Faculty**

Prerequisites: Consent of instructor, department chair and associate dean. Individual research or intensive study under the guidance of a faculty member. A student may enroll for one-three units to a maximum of three units for certificate and degree purposes, subject to suitable change in course content. Application for enrollment must be made by April 15 for the fall semester or by November 15 for the spring semester.

**698. Thesis (1-6) F,S Faculty**

Prerequisites: Advancement to candidacy, Ed. Psych. 696, approval by director, department chair and associate dean. Planning, preparation and completion of a thesis under supervision of a faculty committee. Must be taken for a minimum of four units. Application for enrollment must be made by April 15 for the fall semester or by November 15 for the spring semester.

# Theatre Arts

## School of Fine Arts

**Department Chair:** Mr. Ralph W. Duckwall.

**Emeriti:** John H. Green, Gilman Rankin, Edward A. Wright.

**Professors:** Appel, Camburn, Duckwall, Kahan, Lyman, MacArthur, Rugg, Shoup, Skalka, Smith, Stiver.

**Associate Professors:** Bailor, Eggers.

**Undergraduate Advising Coordinator:** Mr. Ralph W. Duckwall.

**Graduate Adviser:** Dr. Gerald R. Bailor.

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 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.

The Department of Theatre Arts offers graduate study leading to the master of arts degree. The candidate is urged to observe the general requirements stated in this *Bulletin*, as well as the specific departmental requirements stated here and, more fully, in the *Department Handbook*, available upon request from the department.

A limited number of graduate assistantships are available. The graduate assistant works closely with a member of the graduate faculty, but is not responsible for instruction.

There are funds available for qualified persons who wish to act as departmental readers, assisting faculty members with papers, library orders, bibliographies, etc.

Applications for these positions are available from the department office.

#### 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 321, 322, 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 or 316A or B, 426, and 16 units approved from Theatre Arts 310A,B, 312, 318 for up to six units, 324, 325, 331 for up to 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, 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 with a Major in Theatre Arts (code 5-5844)

##### Prerequisites

1. A bachelor's degree with a major in theatre arts, or:
2. A bachelor's degree with 24 units of upper division work in theatre arts, including courses comparable to those required at this University.

Each student applying for admission to a graduate degree program in theatre arts must initiate, in the department office, a request to receive a departmental evaluation, based upon diagnostic examination and an analysis of official undergraduate transcripts to determine any deficiencies and all areas which must be strengthened by the graduate program.

#### Advancement to Candidacy

1. Satisfy the general University requirements.
2. Remove all undergraduate deficiencies as determined by the departmental evaluation and/or the Dean of Graduate Studies.
3. Submit a program for approval by the student's departmental faculty adviser, the department chair, the graduate adviser and the Dean of Graduate Studies.

#### Requirements for the Master of Arts

1. A minimum of 30 units beyond the bachelor's degree in approved upper division and graduate courses, including:
  - a. 18-24 units in theatre arts, of which at least 15 units must be in the 500 and/or 600 series completed at this University. Courses required include Theatre Arts 696, or equivalent, and Theatre Arts 698. The graduate student also will include specialized studies and/or course work in dramatic theory and criticism and theatre history. (Determination of the specific courses to be made by the Theatre Arts Graduate Committee and approved by the Theatre Arts Graduate Adviser.)
  - b. 6-12 approved units outside of theatre arts. (No more than six units may be in education. Student teaching and special methods courses will *not* apply.)
  - c. The student has the choice of selecting one of three options to satisfy the degree requirement: (1) an area of specialization and a research thesis, (2) an area of specialization, a creative project and thesis, or (3) general competence in theatre arts and a comprehensive examination. Each student will be evaluated after 15 units of graduate work to determine whether she/he may continue in the option. If the graduate student or the Evaluating Committee should wish to change the option for any reason, the change will be made following this 15-unit evaluation. Following approval of option 1 and 2, the student is expected to enroll in Theatre Arts 698 to a maximum of four units and thereafter enroll in XGS 700 until the thesis is complete and approved. Following approval of option 3, the student is expected to enroll in Theatre Arts 697 for two units.

#### 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**

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, MacArthur**

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 Faculty**

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 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.

**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.

**315. Audition Techniques (3) Odd years MacArthur**

Prerequisites: Theatre Arts 114 and 214 or consent of instructor. This course is designed to acquaint the student with auditioning materials and practical auditioning techniques. Included are guest speakers, preparation of resume and tapings of scenes. May be repeated for a total of six units.

**\*316A,B. Rehearsal and Performance (2,2) F, S Lyman, MacArthur, Shoup**

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, 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, Kahan, Shoup**

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, Kahan, Shoup**

Prerequisite: Theatre Arts 321A,B 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, MacArthur, 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.
- 335. The History of the American Musical in Film (3) S Kahan, Schlaich**  
History of film musicals through lectures and feature films. Focus is on the directors/actors and choreographers/dancers in films representative of important historical periods, studios and styles. (Same course as Dance 335.)
- 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.) May be repeated for a total of six units.
- \*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.
- 343. Patterning for Stage Costume (3) F even years Camburn, Faculty**  
Prerequisite: Theatre Arts 246 or consent of instructor. Practical application of special processes in costume patterning techniques for theatrical production. May be repeated for a total of six units.
- 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.
- 345. Scene Painting (3) F Camburn**  
Prerequisite: Theatre Arts 242 or consent of instructor. Introduction to theatrical scene painting techniques, materials and methods through specialized technical problems; paint crew assignments required for University-sponsored production. May be repeated for a total of six units.
- \*346. Costume History for the Stage (3) F, S Duckwall, Faculty**  
Chronological study of fashions, modes and mores of major historical periods and their application in contemporary stage productions.
- \*347. Advanced Costume History (3) S 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 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) F 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 Faculty**  
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 Faculty**  
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, Shoup, Stiver**  
Prerequisites: Theatre Arts 114, 242, 244, 246, 248, 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 Rugg, 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, Rugg**  
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.
- 412. Advanced Voice Production (3) F, S Faculty**  
Prerequisites: Theatre Arts 112, 312. Textual analysis and oral interpretation for the actor. Creative expression and exploration of relationship among voice, text and physical movement. Literary analysis and its application to the actor's oral interpretation.
- \*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 MacArthur, 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.



**418. Mask Characterization (3) F Appel**

Prerequisites: Theatre Arts 318, consent of instructor. Advanced Acting class utilizing specially designed character masks and intensive movement exercises to permit greater physical freedom, open up the sensory resources, and stimulate maximum use of the imagination for the actor. Exercises in Neutral and Character mask. Development of a complete character from the mask and direct links to scripted role characterization. May be repeated for a total of six units.

**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, MacArthur, 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.

**442. Stage Property Construction (3) S Camburn, Skalka**

Prerequisite: Theatre Arts 342 or consent of instructor. A study and application of both basic and advanced concepts of stage property and furniture construction. Includes the use of non-traditional materials and construction methodologies.

**\*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, Faculty**

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, Faculty**

Prerequisite: Theatre Arts 246 or equivalent. Advanced technical problems in costume and accessory construction; production planning pattern drafting.

**\*448. Stage Lighting Design (3) F Skalka**

Prerequisite: Theatre Arts 248 and/or 349 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 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 Lyman**

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 excerpts, 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) S Rugg**

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) F, S 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) S Kahan, MacArthur**

Prerequisite: Minimum of six units of acting or consent of instructor. Selected areas of study in the history, theories and criticism of acting.

**524. Aesthetics of the Theatre (3) F Bailor**

Prerequisites: Theatre Arts 322, 426 or consent of instructor. Selected aesthetic theories and theorists which are applicable to the theatre art with emphasis upon acting and play direction.

**570A,B. Ensemble Production Practicum (2,2) F,S Faculty**

Prerequisites: Consent of instructor and graduate adviser. Advanced individual projects and research under faculty supervision. Practical experience in the creative arts with direct application to the studio theatre production program.

**574. History and Theory of Directing (3) S Stiver**

Prerequisites: Minimum of six units of directing or consent of instructor. Selected areas of study in history, theories and criticism of directing.

**621A,B. Seminar in Theatre History and Dramatic Literature (3,3) S Kahan, MacArthur, Stiver**

Prerequisite: Theatre Arts 321 or consent of instructor. Intensive study of one major playwright or period in the history of theatre.

**623A,B. Seminar in Contemporary Theatre (3,3) F MacArthur, Stiver**

Prerequisite: Theatre Arts 322 or consent of instructor. Intensive study of a major area of contemporary theatre. Problems of modern movements in playwriting, production, acting, design and theatre philosophy.

**626A,B. Seminar in Dramatic Theory and Criticism (3,3) S Kahan**

Prerequisite: Theatre Arts 426 or consent of instructor. Selected areas of criticism. Major critical writings and critics.

**642A,B. Seminar in Theatre Decor (3,3) F Camburn**

Prerequisite: Minimum of 9 units of work in theatre history, design and costuming or consent of instructor. Intensive study of the historical aspects of stage decoration, textiles and properties.

**694. Advanced Studies in Theatre Arts (3) F,S Faculty**

Prerequisite: Consent of instructor and graduate adviser. Advanced individual projects with faculty supervision in an area of theatre arts specialization. Limited to three units in any one area per semester and no more than six units in one semester with a total of nine units in any one area. Areas will be designated by letter at time of registration as (a) acting, (b) directing, (c) costumes, (d) scenery, (f) playwriting, (g) children's theatre, (h) theatre management, (i) dance, (j) theatre history, (k) theatre criticism, (m) make up, (n) lighting.

**696. Research Methods (3) F Bailor**

Methods and scope of research including form and style of thesis writing and project recording. (Must be in progress or completed prior to approval of subject for project or thesis.)

**697. Directed Research (2) F,S Faculty**

Prerequisite: Advancement to candidacy. Required of all candidates who elect the comprehensive option. Individual study under the guidance of a faculty member.

**698. Thesis or Project (1-4) F,S Faculty**

Prerequisites: Theatre Arts 696 and consent of department chair. Preparation, completion and submission of an acceptable thesis or creative project in partial fulfillment of the requirement for the master's degree.

# Urban and Regional Studies

## School of Social and Behavioral Sciences

**Faculty and Advisory Board**

**Director:** Dr. Margaret Stark.

**Professors:** Cerillo (History), Krause (Art), Rooney (Economics), Segelhorst (Economics).

**Associate Professors:** Outwater (Geography), Peters (Geography), P. Schmidt (Political Science), Splansky (Geography), Stark (Urban and Regional Studies).

The Urban and Regional Studies Program offers training in a variety of significant urban and regional problem areas. The certificate program is designed to provide exposure to the analysis of urban and regional 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 both private sector and public sector careers in fields concerned with the urban region, its development, problems and special communities.

**Multidisciplinary Approach**

Since urban and regional problems cut across such a variety of disciplines, the program is characterized by an interdisciplinary approach. This is accomplished within the core curriculum by utilization of faculty with interdisciplinary training and experience and within elective elements of the certificate curriculum by allowing students to draw together in a distinctive mix related courses from a variety of other departments. The result is a program which provides essential background knowledge of the dynamics of urban regions. This approach assures a common core of essential knowledge while allowing flexibility to each student in designing an individualized program of study using electives drawn from a variety of relevant disciplinary concentrations. The Certificate Program in Urban and Regional Studies is a 21-unit course of study comprised of 6 units of core requirements and 15 elective units.

**Requirements for the Certificate in Urban and Regional Studies**

1. A bachelor's degree.
2. Consultation with the director of the program.
3. Twenty-one units distributed as follows:

**Core requirements:** Geography 466; Sociology 419.

**Elective Courses:** 15 units to be selected from the following with no more than six units taken from any one department, and courses from the student's major may not be applied toward fulfillment of elective requirements: American Indian Studies 310; Anthropology 469; Art 367; Asian American Studies 345; Black Studies 210;

Economics 300, 334, 436, 437, 441, 451; Finance 448, 452; Geography 467; History 469, 474; Home Economics 342; Management 425; Mexican American Studies 350; Political Science 327, 426, 442; Psychology 375; Sociology 142, 347; Urban Studies 490, 494.

A brochure describing the Urban and Regional Studies Certificate Program in greater detail is available in the Office of the School of Social and Behavioral Sciences.

#### **The University/Community Model**

California State University, Long Beach is ideally situated for the development of university/community programs focusing on the development and problems of urban regions. Located in the City of Long Beach (population 350,000), in the southeastern portion of Los Angeles County, the University has ready access to the greater Los Angeles/Orange County metropolitan area. This large urban region provides a rich laboratory for the study of a broad spectrum of urban/regional situations, ranging from a variety of concerns related to the redevelopment of older core areas, to the development of new housing and commercial and industrial park development in the newer areas of Orange County.

#### **Urban Internship Program**

The Urban Internship Program is implemented through Urban and Regional Studies 494. Through the program students have the opportunity to work directly in private sector offices and public sector agencies working on significant urban problems and/or projects in the Los Angeles/Orange County metropolitan area. Placements are made in such diverse areas as land use planning, urban redevelopment, environmental impact assessment, economic development (commercial/industrial), housing and community development, transportation, historic preservation, coastal resource management, port planning and management, delinquency and probation, health care systems, the urban elderly and many others.

#### **Community Service**

It is the intent of the Center for Urban Studies to act as a coordinator of university resources, both physical and human, in an attempt to direct attention toward the concerns of urban communities and regions. Individuals, citizen groups, private sector institutions and public agencies are encouraged to direct inquiries concerning the needs of urban communities and regions to faculty working within the center.

Students interested in the Urban and Regional Studies Certificate Program should apply to the Director of Urban and Regional Studies, School of Social and Behavioral Sciences.

#### **Upper Division**

##### **401. The Changing Urban Region (3) F,S Stark**

Examination of critical urban problem areas within the context of urban decentralization and the decline of older core areas. Introduction to urban data and urban research sources. Examination of private sector roles as well as public sector roles in the diagnosis and treatment of urban problems.

##### **490. Special Topics in Urban and Regional Studies (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Topics of current interest in urban and regional studies selected for intensive development. Elective credits toward the certificate count only when the special topic designated is within the student's special area of concentration for credits. Topics will be announced in the *Schedule of Classes*.

##### **494. Urban Internship Program (3) F,S Stark**

Prerequisite: Consent of instructor. Student internship experience in a variety of Los Angeles and Orange County private sector and public sector offices in order to gain an understanding of the processes used and complexities involved in attempting to solve problems of urban communities. Students meet weekly in a seminar format to discuss urban problems and proposed strategies of treatment with faculty and community leaders as well as to report on observations and insights gained from the field placement experience.

##### **499. Directed Studies (1-3) F,S Faculty**

Prerequisite: Consent of instructor. Independent study under the supervision of a faculty member.



# Vocational Education Program

## School of Applied Arts and Sciences

### Department of Industrial Education

**Department Chair:** Dr. Leonard Torres.

**Professor:** Stanger.

**Associate Professor:** Resurreccion.

**Assistant Professor:** Bott.

**Graduate Adviser:** Dr. Paul E. Powell.

**Undergraduate Adviser:** Dr. Richard L. Resurreccion.

**Designated Subjects Credential Coordinator:** Dr. Paul A. Bott.

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.

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### Center for Career Studies

The Center for Career Studies is a non-profit, tax exempt, research and development, planning, implementing and evaluating organization operating as an independent unit within the School of Applied Arts and Sciences. The center has as its primary purpose serving the mutual goals of career education, occupational education, vocational education and manpower development as they exist programatically within the public and private sectors of the major community. Additional information may be obtained from the center.

### Designated Subjects Credential (Credential Code 300)

This program of instruction identifies and develops on an individualized basis the identified teaching competencies requisite for successful employment in designated subjects programs, as required by the California Commission for Teacher Preparation and Licensing. It is offered in conjunction with the School of Education.

### 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.

**Master of Arts in Vocational Education (code 5-1027)**

The master of arts degree in vocational education is available to qualified students preparing for professional careers in the fields of career/occupational/vocational education. A major thrust is the development of qualified leadership personnel to serve vocational education programs in public and private education as well as manpower development programs in California and the nation.

Multidisciplinary and interdisciplinary in nature, the program complements existing graduate programs serving individual disciplines usually associated with occupationally-oriented curricula. Opportunities are provided for graduate students to improve their competencies related to programs dealing with the major career clusters: business and office, communications and media, construction, consumer and homemaking, environmental control, fine arts and humanities, health, hospitality and recreation, manufacturing, marine science, public service and transportation.

As a result of curricular flexibility, the student may pursue individualized goals of either comprehensive study or specialization within the scope of vocational education. All candidates are required to complete a core of courses which includes a thesis or written comprehensive examination and oral defense of the thesis and comprehensive examination. Detailed information about the curriculum options is contained in the *School of Applied Arts and Sciences Graduate Handbook* and the *Handbook for the Master of Arts in Vocational Education* available upon request from the graduate adviser.

**Each applicant must submit a copy of the official transcript of all college work to the graduate adviser of vocational education in addition to copies required by the Office of Admissions and Records.**

**Prerequisites**

1. A bachelor's degree in vocational education, with a minimum of 24 upper division units in vocational education comparable to courses offered at this University; *or*
2. A bachelor's degree with a minimum of 24 upper division units comparable to courses offered at this University in the discipline in which the degree was awarded *and* a vocational education credential.

**Advancement to Candidacy**

1. Satisfaction of the general University requirements for advancement to candidacy.
2. Completion of all prerequisite requirements.
3. Establishment of degree objectives with the Records Office.
4. Maintenance of B average (3.0 GPA) in all work completed in graduate program.
5. Approval of Vocational Education Graduate Adviser and Director of Graduate Studies and Research, School of Applied Arts and Sciences.

**Requirements for the Master of Arts**

1. Completion of Vocational Education 501, 502, 503, 504, 696.
2. Completion of 30 units of approved upper division and graduate courses and a thesis (Vocational Education 698) and an oral presentation over the thesis approved by Department Graduate Committee; or 36 units of approved upper division and graduate courses and a written comprehensive examination.

**Upper Division****\*400. Career Education and the World of Work (3) F,S Faculty**

Key occupational clusters, career guidance fundamentals; the career development process; youth opportunities for leadership; the changing character of technology and a study of selected career development modules.

**\*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 Bott**

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 Resurreccion**

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.

**\*417. The Work Ethic: Implications for Vocational Education (3) F,S Bott**

Study of the development of various elements that comprise the values of work held by contemporary society and means of introducing studies of the work ethic into instructional programs of vocational education.

**\*418. The Marketplace for Vocational Education (3) F,S Stanger**

Studies of public and private agencies that serve persons who have the need to identify, prepare for and use vocational education; where such persons are placed, what they do, their successes and failures, and future trends and needs.

**\*420. Evaluation of Vocational Education Programs (2) F Bott**

Analysis of evaluation models usable for vocational education programs and systems, including the phases of needs assessment, program planning, progress, implementation and outcome evaluation.

**\*456. Attitude Awareness for Vocational Teachers (2) F,S Resurreccion**

Introduction to and application of the principles of communication, human relations, understanding other people, attitude recognition and development, and mental steps to motivation. Contributions of the behavioral sciences to more effective teaching in a vocational setting will be examined and plans for their implementation will be prepared.

**\*460. Vocational Education for Special Needs Learners (3) F,S Resurreccion**

Identification, assessment and instructional development strategies for handicapped and disadvantaged students in vocational education.

**\*461. Methods of Teaching Disadvantaged Youth in Vocational Education (2) F,S Faculty**

Techniques for teaching disadvantaged youth in vocational classes. Emphasis on methods, motivation, counseling and instructional organization.

**\*470. Seminar in Vocational Education (3) F,S Bott**

Study of the major problems and issues confronting the vocational educator and practitioner.

**\*480. Internship in Vocational Education (1-4) F,S Faculty**

Internship in community or school manpower development programs which involve instruction, administration and research within the career education spectrum.

**\*483. Senior Project (1-3) F,S Bott, Resurreccion, Stanger**

Identification of, planning, preparation and completion of a project to solve problems particular to a business, educational or industrial setting. Written report required.

**\*485. Identifying Management Competencies (3) S Stanger**

Students will their philosophies of leadership and supervision, prepare for self-improvement of leadership capabilities, prepare a plan for the development, operation and evaluation of a Designated Subjects program, prepare budgets, written communications and demonstrate other supervision and coordination competencies.

**486. Supervision and Coordination of Vocational Education Programs (3) F, S Faculty**

Prerequisite: Vocational Education 485. The development of competencies requisite for effective supervision and coordination of designated subjects programs. Students will develop and make plans for operationalizing their philosophies of leadership and supervision, prepare for self-improvement of leadership capabilities, prepare a plan for the development, operation and evaluation of a Designated Subjects Program, prepare budgets, written communications, and demonstrate other supervision and coordination competencies.

**487. Individualized Development of Leadership Competencies (2) F,S Faculty**

Prerequisites: Vocational Education 485, 486 and Supervision and Coordination Credential Candidacy. Individualized research, study and competency development under the direction of a faculty member in areas not an integral part of any course. Specific content will be dependent on each candidate's needs as determined by self-evaluations and evaluations of their performance and capabilities that are done by employers. Written report is required.

**488. Internship in Supervision of Designated Subjects Programs (2) F,S Faculty**

Prerequisites: Vocational Education 485, 486, and 487 and Supervision and Coordination Credential Candidacy. Advanced individualized field experiences in supervisory positions under the direction of a faculty member and local supervisor. Written report required.

**\*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 Faculty**

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) F,S Bott**  
Education and training programs covering the spectrum of occupational preparation emphasizing vocational education and manpower development components.

**502. Vocational Education Administration (3) F,S Stanger**  
Concepts and techniques of personal and professional administrative leadership.

**503. Management of Vocational Education Programs (3) F,S Faculty**  
Advanced principles and procedures of management emphasizing local and county operations, and evaluation of vocational education programs.

**504. The Environments of Vocational Education (3) F,S Faculty**  
Interrelationships among vocational education, business, industry, government and society.

**696. Research Methods in Vocational Education (3) F,S Kunst**  
Selecting, defining and presenting methods of research; demonstration of research theory to problem solution.

**697. Directed Studies in Vocational Education (1-3) F,S Bott, Resurreccion, Stanger**  
Prerequisite: Advancement to candidacy. Research in an area of specialization under the direction of a faculty member.

**698. Thesis (1-4) F,S Bott, Resurreccion, Stanger**  
Prerequisite: Advancement to candidacy. Planning, preparation and completion of a thesis related to the vocational education field.



# Women's Studies

## School of Social and Behavioral Sciences

**Director:** Dr. Sondra Hale.

**Professors:** Furth (History), Rosenfelt (English).

**Associate Professors:** Edmondson (Physical Education), Inderlied (Human Resources Management), Nieto (Education), Sievers (History).

In addition to the above listed faculty who represent various disciplines, there is a part-time core faculty who teach in Women's Studies. For current listing consult the Women's Studies Program.

The Women's Studies Program offers courses concerning the nature, roles, status and contributions of women. Through its own course offerings and by encouraging the development of courses in other departments which emphasize these aspects of women's experience, the Women's Studies Program hopes to encourage scholarly inquiry and to equip students to enter fields of service to women in the professions and the community.

The program emphasizes (1) a pedagogy enabling students to combine intellectual discovery with personal involvement in their work; (2) student participatory modes of organization; (3) the combination of theory and practice; (4) understanding the experience of women from various cultural and ethnic backgrounds; (5) strengthening of women's self-images to develop their full potential as human beings and to acquire not only the knowledge but the confidence for full participation in American society, including creative social change.

The Women's Studies Program offers a minor which may be combined with many majors, and the American Studies major includes a concentration in Women in American Society. CSULB also offers a Special Major at the graduate and undergraduate level through which students may design a major combining Women's Studies with another discipline. Designated Women's Studies courses may be used to fulfill the Social Science (Category II) General Education requirement.

Other programs and departments offering courses on women, some of which are cross listed with Women's Studies, include Anthropology, American Indian Studies, Comparative Literature, Economics, English, History, Home Economics, Honors, Mexican American Studies, Physical Education, Psychology, Radio-Television, Religious Studies, Social Welfare, Sociology and Speech Communication.

### *Requirements for the Minor in Women's Studies (code 0-0013)*

A minimum of 21 units, to be selected with approval of a women's studies adviser, from the following categories:

1. Women's Studies Core: 101, 102, 415, 485 (or History 485).

2. Cross-Cultural Courses: Three units selected from Anthropology 330, Black Studies 490†, Asian American Studies 490†, English 498†, Mexican American Studies 415, American Indian Studies 370, and Women's Studies 401 (or History 401), 315, 490†.
3. Electives: At least six units selected from English 382, Women's Studies 314, 350, 356, 405, 490†, 498, 499. Only three units of 498 or 499 may be applied to the minor in women's studies.

### 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.

#### 111. Women's Sexuality Discussion Group (1) F Faculty

Prerequisite or corequisite: Women's Studies 101. Discussion of sex and health research. Discussion topics include male and female socialization, body image, female sexual response, sexual health care, birth control, abortion and relationships between women and men.

### Upper Division

#### 314. Women's Lives (3) F, S 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 Faculty

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 Faculty

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.

#### 405. Topics in Women's Oral History (3) F, S Faculty

Using oral history this course will focus on women's experience in different periods in the 20th century. Different topics will be emphasized each semester, including a study of women's changing history through a comparison of two generational groups; the "feminine mystique" 1920 and 1950; Rosie the Riveter, women during World War II. May be repeated with different topics for a maximum of six units.

#### 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 Faculty

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.

#### 420. Mothers and Daughters (3) F Faculty

Examination of the ways in which the existence of patriarchy determines the mother-daughter relationship, of the means by which mothers prepare their girl children for survival as women, of alternative methods for bringing up children and of the needs and concerns of single mothers.

#### 425. Women and Power (3) S Faculty

Examination of the various means women use to achieve both public and private power, and the extent to which women have gained power in the family, the workplace, and politics. Traditional and feminist definitions of the meaning of power are explored.

#### 430. Women and Violence (3) F Faculty

Analysis of physical, psychological and philosophic forms of violence directed against women, including rape, women-battering, incest, pornography, and sexual harassment; and of strategies for survival, resistance and social change.

#### 485. History of Women in the United States (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 Issues in Sex and Race, and Women, Work and Social Change.

#### 498. Field Work (1-3) F, S Faculty

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.

† If applicable and approved by the women's studies adviser

499. Directed Studies (1-3) F, S Faculty

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.



# Faculty

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As of December, 1980

(Number in parentheses indicates year of appointment)

## Emeriti

- Charles A. Allen (1957)** . . . . . Professor, English  
B.A., De Pauw University; Ph.D., University of Iowa. Emeritus, 1978.
- 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. Antinson (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.
- Warren J. Boring (1956)** . . . . . Professor, Physical Education  
B.S., Kansas State College; M.S., University of Colorado; H.S.D., Indiana  
University. Emeritus, 1981.

- Dean O. Bowman (1973)** . . . . . Dean, School of Business Administration  
B.S., M.S., Purdue University; Ph.D., University of Michigan. Emeritus, 1977.
- Jack I. Bradley (1952)** . . . . . Professor, Psychology  
B.A., California State University, Los Angeles; M.A., Occidental College; Ph.D.,  
Claremont Graduate School. Emeritus, 1981.
- 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.
- Alexander L. Britton (1965)** . . . . . Professor, Educational Psychology  
B.A., University of California, Los Angeles; M.A., California State University, Long  
Beach; Ed.D., University of Southern California. Emeritus, 1980.
- 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.
- Darrell V. Burras (1957)** . . . . . Professor, Quantitative Systems  
B.S., Central Michigan College; M.S., Ph.D., University of Michigan. Emeritus,  
1980.
- Guy H. Cain, Jr. (1960)** . . . . . Associate Professor, Electrical Engineering  
B.S. in E.E., University of Wisconsin; M.Eng., University of California, Los  
Angeles. Emeritus, 1980.
- 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.
- Teresa B. Chambers (1969)** . . . . . Head Science Librarian  
B.A., Montana State University; M.L.S., University of Southern California.  
Emeritus, 1978.
- James E. Cockrum (1955)** . . . . . Professor, Instructional Media  
B.Ed., Southern Illinois University; M.A., Teachers College, Columbia University;  
Ed.D., Indiana University. Emeritus, 1978.
- James L. Comer (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. Emeritus, 1981.
- 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.
- Boyd A. Davis (1951)** . . . . . Director of Academic Planning;  
Professor, Educational Psychology  
B.A., John Fletcher College; M.S., Ph.D., Iowa State University. Emeritus, 1980.
- C. Thomas Dean (1952)** . . . . . Professor, Industrial Education;  
Dean, School of Applied Arts and Sciences  
B.A., Peru State Teachers College; M.S., Ph.D., Iowa State University. Emeritus,  
1980.
- 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.
- Dixon L. Gayer (1959)** . . . . . Professor, Journalism  
B.A., University of California, Berkeley; M.A., California State University, Long  
Beach. Emeritus, 1980.
- 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.
- Alan J. Glasser (1959)** . . . . . Professor, Educational Foundations  
B.A., Stanford University; M.A., Ph.D., Boston University. Emeritus, 1980.
- Frank F. Gorow (1953)** . . . . . Professor, Secondary Education  
B.S., University of Washington; Ed.D., University of California, Los Angeles.  
Emeritus, 1974.
- Ralph C. Graetz (1956)** . . . . . Professor, Educational Foundations  
B.S., Wisconsin State College, Milwaukee; M.Ed., Marquette University; Ed. D.,  
Michigan State University. Emeritus, 1980.
- Floyd M. Grainge (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.  
Emeritus, 1980.
- Jay J. Gramlich (1956)** . . . . . Professor, Instructional Media  
B.S., Southwestern State College, Oklahoma; M.Ed., Southern Methodist  
University; Ed.D., University of Oklahoma. Emeritus, 1980.
- John H. Green (1955)** . . . . . Professor, Theatre Arts  
B.A., Central State College, Edmond, Oklahoma; M.A., Northwestern University;  
Ph.D., University of Denver. Emeritus, 1980.
- Serafina Q. Gunter (1964)** . . . . . Professor, Accounting  
B.S., M.A., California State University, Long Beach; C.P.A. Certificate, California.  
Emeritus, 1980.
- C. Robert Guthrie (1963)** . . . . . Professor, Criminal Justice  
B.A., California State University, Fresno; M.S., D.P.A., University of Southern  
California. Emeritus, 1980.
- Ross Hardy (1949)** . . . . . Professor, Zoology  
B.S., M.S., University of Utah; Ph.D., University of Michigan. Emeritus, 1973.
- William E. Hartman (1951)** . . . . . Professor, Sociology  
B.A., M.A., Ph.D., University of Southern California. Emeritus, 1980.
- Sanford M. Helm (1954)** . . . . . Professor, Music  
B.A., Transylvania College; B. Mus., M. Mus., Ph.D., University of Michigan.  
Emeritus, 1977.

- 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.
- Mabel J. Hoffman (1961)** . . . . . Professor, Nursing  
B.S., University of California, San Francisco; M.A., Teachers College, Columbia  
University. Emeritus, 1980.
- Erma L. Hutton (1966)** . . . . . Professor, Social Welfare  
B.A., California State University, Long Beach; M.S.W., University of Southern  
California. Emeritus, 1980.
- Taylor T. Jackman (1963)** . . . . . Professor, Educational Administration  
B.A., John Brown University; M.A., Oklahoma State University; Ed.D., University of  
Southern California. Emeritus, 1980.
- 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.
- Harold H. Key (1965)** . . . . . Professor, Anthropology  
B.A., M.A., Ph.D., University of Texas. Emeritus, 1980.
- 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.
- George W. Korber (1952)** . . . . . Professor, Sociology  
B.A., M.A., University of Pacific; Ph.D., Stanford University. Emeritus, 1978.
- Stephen Kulik (1959)** . . . . . Professor, Mathematics  
Doktor Matematichnikh Nauk, Institute of Mathematics; University of Kiev.  
Emeritus, 1972.
- Phyllis L. Lackey (1964)** . . . . . Professor, Nursing  
B.S., University of California, Los Angeles; M.S., University of California, San  
Francisco. Emeritus, 1979.
- 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.
- Raymond E. Lindgren, (1961)** . . . . . Professor, History  
B.A., M.S., Ph.D., University of California, Los Angeles. Emeritus, 1980.
- 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.
- James N. McClelland (1959)** . . . . . Professor, Psychology  
B.A., M.A., Drake University; Ph.D., University of California, Berkeley. Emeritus,  
1980.
- H. Thomas McCorkle, Jr. (1966)** . . . . . Professor, Anthropology  
B.A., Ph.D., University of California, Berkeley. Emeritus, 1980.

- William D. McIlvaine, P.E. (1964)** . . . . . Professor, Civil Engineering  
B.E.E., M.S.E.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. Monteem 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.
- Walter A. Nagle (1951)** . . . . . Professor, Elementary Education  
B.A., San Diego State University; M.A., Ed. D., Stanford University. Emeritus, 1980.
- Elizabeth E. Nielsen (1950)** . . . . . Professor, English  
B.A., Cornell College; M.A., Boston University; Ph.D., Northwestern University.  
Emeritus, 1976.
- Herluf 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. Noguier (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.
- Hazel A. Oliver. (1960)** . . . . . Senior Assistant Librarian  
B.Th., Northwestern Christian College, Eugene, Oregon; M.A., Butler University,  
Indianapolis, Indiana; M.S. in L.S., University of Southern California. Emeritus,  
1980.
- 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.
- Lyman M. Partridge (1964)** . . . . . Professor, Communicative Disorders  
B.A., Brigham Young University; M.A., Teachers College, Columbia University;  
Ph.D., University of Michigan. Emeritus, 1978.
- Roderick B. Peck (1957)** . . . . . Professor, Educational Psychology;  
Dean, Extended Education  
B.A., Nebraska State Teachers College; M.S., Ph.D., Iowa State University.  
Emeritus, 1980.
- 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. Phearnan (1950)** . . . . . Professor, Elementary Education  
B.A., Cornell College, Iowa; M.A., Ph.D., State University of Iowa. Emeritus, 1972.



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- Robert E. Winchell (1966)** ..... Professor, Geological Sciences  
B.S., Stanford University; M.S., Michigan Technological University; Ph.D., Ohio State University. Emeritus, 1980.
- Robert W. Winchell (1961)** ..... Professor, Electrical Engineering  
B.S., M.S., California Institute of Technology. Emeritus, 1980.
- Robert W. Winslow (1952)** ..... Professor, Music  
B.Mus., Eastman School of Music; M.Ed., University of Rochester; M.S., Ed.D., Teachers College, Columbia University. Emeritus, 1980.
- Charles E. Wolff (1957)** ..... Professor, Marketing  
B.A., Lewis Institute, Chicago; M.B.A., Northwestern University. Emeritus, 1980.
- Edward A. Wright (1966)** ..... Professor, Theatre Arts  
B.A., M.A., University of Iowa. Emeritus, 1973.
- Dale Yoder (1966)** ..... Professor, Management  
B.A., James Millikan University, Illinois; M.A., Ph.D., State University of Iowa. Emeritus, 1975.
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## Full-Time Faculty

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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.
- Abou-El-Haj, Barbara (1979)** ..... Lecturer, Art  
B.A., St. Lawrence University, New York; Ph.D., University of California, Los Angeles.
- Abou-El-Haj, Rifaat Ali (1964)** ..... Professor, History  
B.A., Washington and Lee University; M.A., Ph.D., Princeton University.
- Abrahamse, Dorothy Z. (1967)** ..... Professor, History  
B.A., Mount Holyoke College; M.A., Ph.D., University of Michigan.
- Abut, Huseyin (1979)** ..... Lecturer, Electrical Engineering  
B.S., Robert College, Turkey; M.S., Ph.D., North Carolina State University.
- 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)** ..... 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.
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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.
- 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)** ..... Professor, Mathematics  
B.S., Agra University, India; M.S., Muslim University, India; M.A., Ph.D., University of California, Santa Barbara.
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B.B.A., M.S., University of Minnesota.
- Allice, Ronald J. (1973)** ..... Coach, Intercollegiate Athletics  
B.A., M.A., California State University, Long Beach.
- Amenta, Allan (1975)** ..... Coordinator, Instructional Development Services  
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- Ames, Kenneth J. (1968)** ..... Professor, English  
B.A., University of London; A.L.A. (London); M.A., Ph.D., University of Southern California.
- Anand, Rajen S. (1970)** ..... 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.
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- 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.
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B.S., M.B.A., California State University, Long Beach; C.P.A. certificate, California, Kentucky.
- Andrus, Donald G. (1968)** ..... Associate Professor, Music  
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- 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)** ..... Professor, Theatre Arts  
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- Applbaum, Ronald L. (1969)** ..... Professor, Speech Communication  
Dean, School of Humanities  
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- Appleton, George L. (1953)** ..... Professor, Physics  
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- Archer, Blair C. (1950)** ..... Professor, Art  
B.S., Moorhead State Teachers College; M.Ed., Ph.D., University of Minnesota.
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- Avvocato, Rudolph I. (1970)** . . . . . Medical Officer  
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- Battaglia, Natale A. (1974)** . . . . . Assistant Professor, Religious Studies  
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- Bauer, Roger D. (1959)** . . . . . Professor, Chemistry  
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- 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  
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- Beecher, Earl S. (1961)** . . . . . Professor, Finance  
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- 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)** . . . . . 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.
- Berke, JoAnne (1980)** . . . . . Lecturer, Art  
B.F.A., Wayne State University; M.F.A., Tyler School of Art, Pennsylvania.
- 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.
- Berry, Arnold J. (1973)** . . . . . Associate Professor, Chemistry  
B.S., Pennsylvania State University; M.S., Michigan State University; Ph.D., Ohio State University.
- Berryhill, Stuart R. (1979)** . . . . . Assistant Professor, Chemistry  
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- Betar, George V. (1963)** . . . . . Professor, English  
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- Biedebach, Mark C. (1967)** . . . . . Associate Professor, Biology  
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- Binder, Virginia L. (1967)** . . . . . Professor, Psychology  
B.A., William Jewell College, Liberty, Missouri; Ph.D., Indiana University.
- Black, Albert G. (1962)** . . . . . Associate Professor, English  
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- Black, Paul V. (1969)** . . . . . Professor, History  
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B.S., Loma Linda University; M.S., University of California, Los Angeles; Ph.D., University of Southern California.
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B.A., University of California, Los Angeles; M.A., University of Missouri.
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B.A., Ohio State University; M.A., Roosevelt University; M.P.A., Ph.D., University of Southern California.
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B.S., M.A., Ph.D., Certificate in Physical Therapy, State University of Iowa; Registered Physical Therapist, California.
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- 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  
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- Borowiec, Edward J. (1969)** . . . . . Associate Professor, English  
Ph.B., University of Detroit; M.A., Ph.D., University of Southern California.
- Boston, Archie (1977)** . . . . . Associate Professor, Art  
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- Bott, Paul A. (1976)** . . . . . Assistant Professor, Vocational Education  
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- Bourret, James A. (1968)** . . . . . Professor, Biology  
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- 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.
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B.A., M.A., California State University, Chico; Ed.D., University of California, Los Angeles.
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- Brasher, Robert E. (1956)** . . . . . Serials Catalog Librarian  
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B.S., San Diego State University; M.A., Ph.D., University of California, Santa Barbara.
- Brekke, Alice M. (1970)** . . . . . Associate Professor, English  
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- Brodnax, Charles T. (1980)** . . . . . Associate Professor, Electrical Engineering  
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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.
- Burford, William H. (1978)** . . . . . Lecturer, Finance  
B.A., Tennessee State University, Nashville; J.D., University of California, Los Angeles.
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B.A., California State University, Long Beach; M.S.P.H., Dr.P.H., University of California, Los Angeles.
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B.M., American Conservatory of Music; B.A., M.A., Ph.D., University of Chicago.
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B.A., University of South Dakota; M.A., Ph.D., Northwestern University.
- Callero, Milton F. (1978)** . . . . . Lecturer, Marketing  
B.A., Florida State University, Tallahassee; M.A., Ph.D., American University.
- Callison, George L. (1969)** . . . . . Professor, Biology  
B.S., Kansas State University; M.A., Ph.D., University of Kansas.
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William Beck . . . . . Manager, University Union Food Service  
Hal Espy . . . . . Manager, Residence Hall Food Service  
Jan R. Sole . . . . . Coordinator, Cash Operations

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