uci general catalogue 1973-74

UC IRVINE - 1973-1974

frontispiece by
Vivian Chang, art major

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foreword

For the past several years UCI has taken exception to the idea that a general catalogue must be dull and lifeless or simply a "PR" document. Without question there is a volume of information — much of it of a technical or procedural nature — and for the sake of economy and brevity it is impossible also to include a very well rounded picture of the character of a campus. So each year the UCI Publications Committee picks a graphic theme that focuses on some aspect of creative expression.

A university does its job only if it stimulates creativity and thought far beyond the bounds of a particular major or general field of study. In a very real sense it cannot teach you anything; it can only present the collected facts and theories of mankind's past and encourage the student to use them wisely to make life better. A hopeful sign of the times is the movement toward interdisciplinary education. The implication is explicit: We must cast aside our stereotypes and narrow categories and recognize the organic integrity of life and being. The "artist" has long been characterized by the desire to minimize definitions and get to the essence.

With this in mind, the Publications Committee chose student art as the graphic theme of the 1973-74 UCI General Catalogue. As a whole the art represents nothing in particular — no themes or special interests. The committee issued a call for art, with no definitions attached, and particularly stressed that students view all interesting visual aspects of their studies as art. We wished to touch as many areas of the educational experience as possible without limiting the creative expression to educational topics.

The volume and breadth of the response was, frankly, surprising. Fortunately, there was space to run about 90% of the submissions. We feel we achieved our goal: Some of the work is moving, some pretty, some exciting, and some is just plain interesting. We hope you agree.

Bob Goings
Harriet Fleischer
Kathy Jones

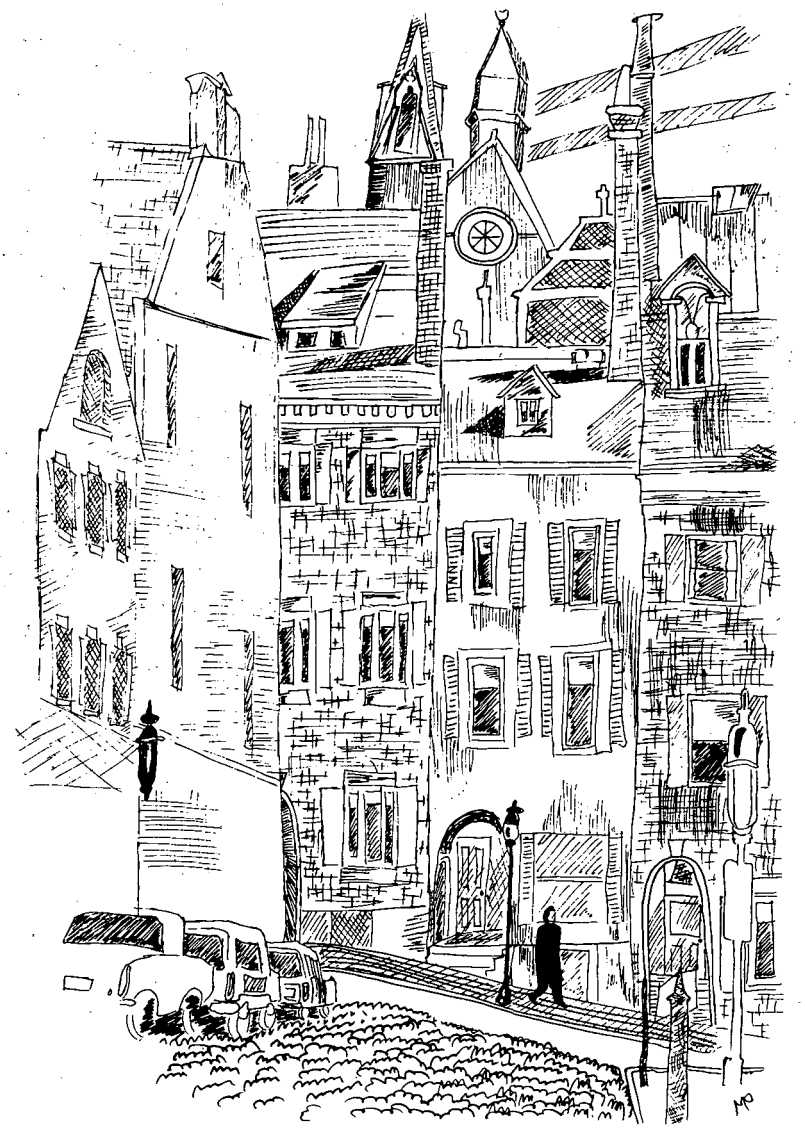
room

a thousand hands closing windows
turn the heat up until you
sweat
and the misted glass
gives no reflection

now think of the
rain and the way it touches
the grass and the concrete with the same sound

your books beside you
touch your fingertips then
very quietly say
"i am happy, this is real"

Carol Withers, art major



Marsha Pug, art major

introduction

This catalogue contains general administrative and academic information as well as specific descriptions of schools and departments and the courses offered in each.

Because the catalogue must be prepared well in advance of the year it covers, changes in some programs will inevitably occur. The quarterly "Schedule of Courses" is the final authority in regard to classes offered and instructors; this publication is available from the Registrar's Office shortly before enrollment begins each quarter.

Course Listings: It is particularly important to note that some courses listed are not necessarily offered each year, and a course has no prerequisites unless noted. Admission to UCI does not guarantee admission to any particular course.

Undergraduate courses are classified as "lower division" and "upper division." "Lower division" refers to courses numbered 1-99; "upper division" refers to courses numbered 100-199. Courses numbered 200 and above are graduate courses. "Lower division" usually refers to freshman-sophomore courses, "upper division" to junior-senior courses. However, junior and senior students may take lower-division courses, and freshmen and sophomores may take some upper-division courses. The letter L following a course number usually designates a laboratory course.

The "(1)" or "(1-1-1)" designation following the course title indicates the course credit toward the 45 courses (180 quarter units) needed to graduate. Each "1" represents one quarter course worth four quarter units. Courses that may be repeated for credit contain wording to that effect in the descriptive writeup.

The letters F, W, or S after the course number and title indicate which quarter(s) the course will be offered: fall, winter, or spring. (Although this catalogue is not intended to include Summer Session courses, a few are listed which complement particular programs; these are indicated by the word "summer.")

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Schools and Departments

Professional Education

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academic calendar

Fall Quarter 1973

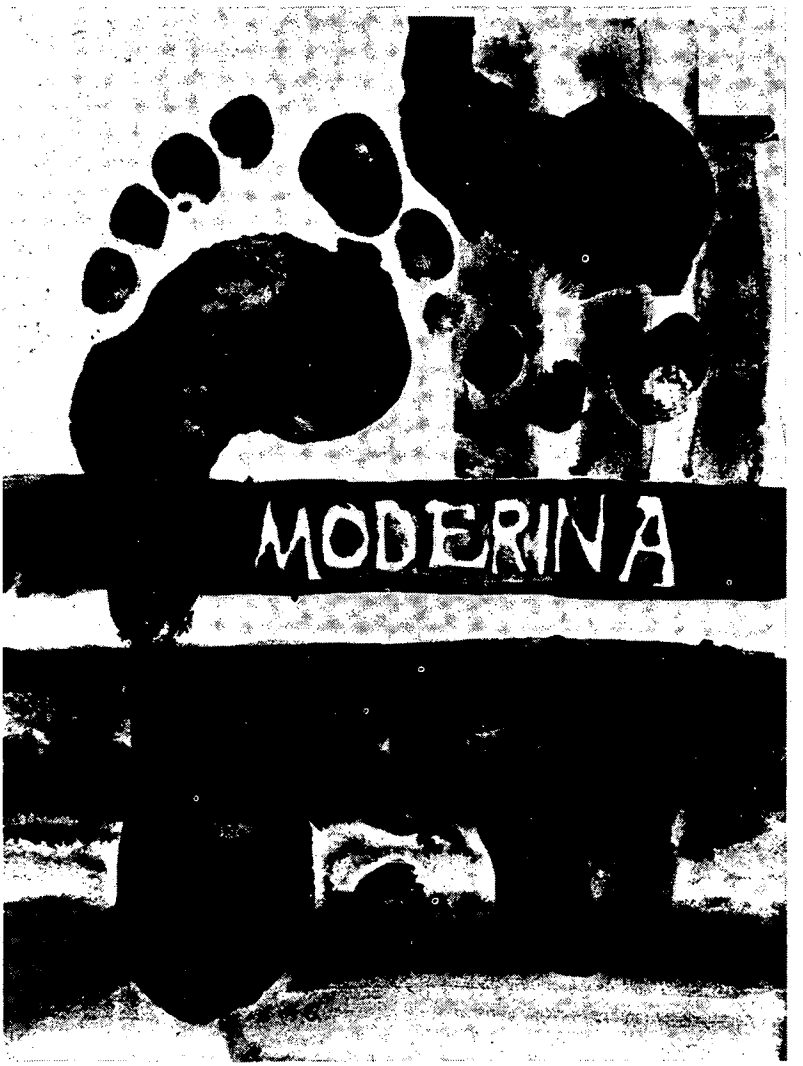
Registration	August 27-September 7
Enrollment in Classes	August 27-September 7
Quarter Begins	September 24
Orientation for New Students	September 24-28
Late Registration	September 25-26
Late Enrollment in Classes	September 25-26
Instruction Begins	October 1
Last Day to Add a Course	October 12
Last Day to Change Pass/Not Pass Option	October 12
Last Day to Drop a Course	November 9
Thanksgiving Holiday	November 22-23
Instruction Ends	December 7
Final Examinations	December 8-14
Quarter Ends	December 14
Christmas Holiday	December 24-25
New Year's Holiday	December 31-January 1

Winter Quarter 1974

Registration	November 26-December 7
Enrollment in Classes	November 26-December 7
Quarter Begins	January 2
Orientation for New Students	January 2-4
Late Registration	January 2
Late Enrollment in Classes	January 2
Instruction Begins	January 7
Last Day to Add a Course	January 18
Last Day to Change Pass/Not Pass Option	January 18
Last Day to Drop a Course	February 15
Holiday	February 18
Instruction Ends	March 15
Final Examinations	March 16-22
Quarter Ends	March 22
Spring Holiday	March 25

Spring Quarter 1974

Registration	February 25-March 8
Enrollment in Classes	February 25-March 8
Quarter Begins	March 27
Orientation for New Students	March 27-29
Late Registration	March 27
Late Enrollment in Classes	March 27
Instruction Begins	April 1
Last Day to Add a Course	April 12
Last Day to Change Pass/Not Pass Option	April 12
Last Day to Drop a Course	May 10
Memorial Day Holiday	May 27
Instruction Ends	June 7
Final Examinations	June 8-14
Commencement	June 15
Quarter Ends	June 15



Lynn Rempalski, education

the university

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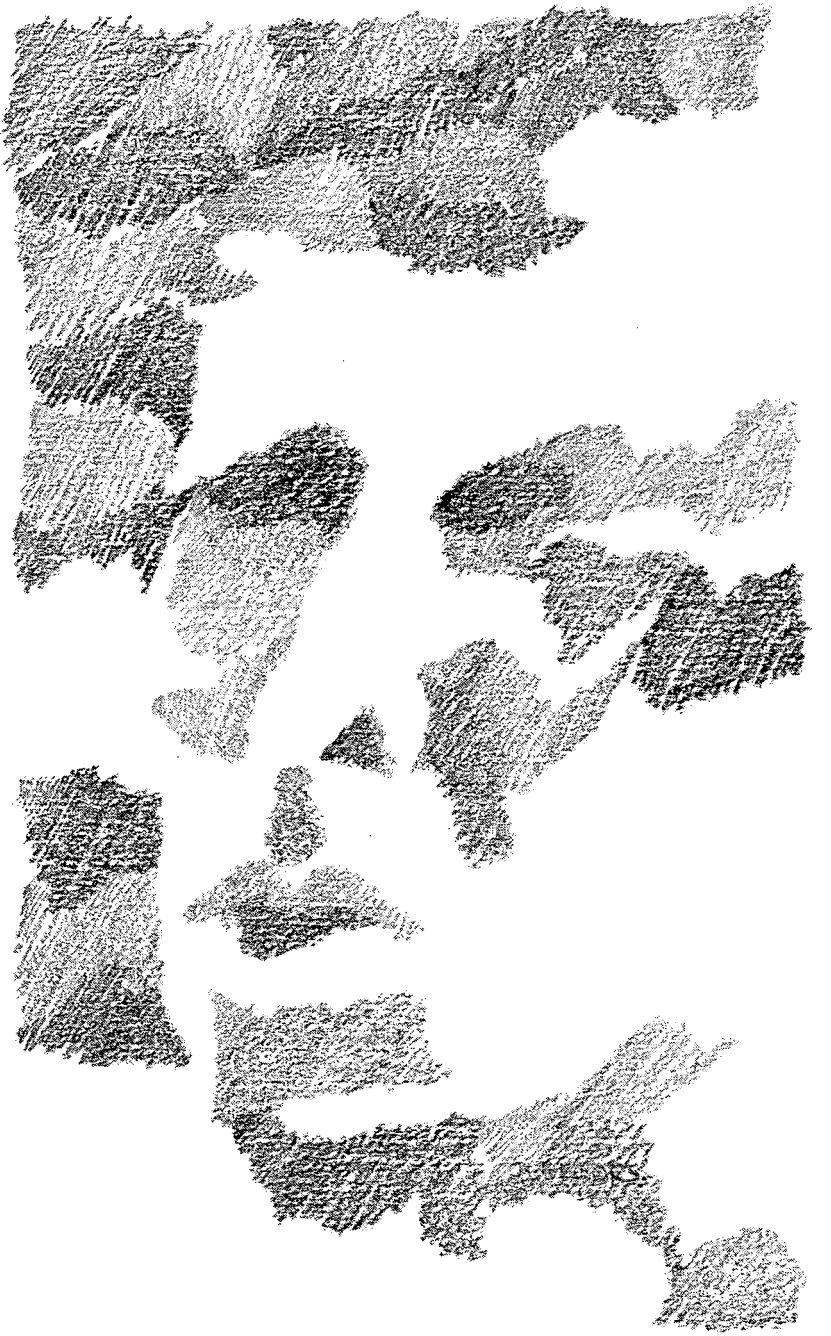

Jeanette Brooks, art major

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university of california

The promise of a University of California is contained in the State's Constitution, drafted in Monterey in the gold rush year of 1849. In 1853 Congress bestowed upon the State 46,000 acres of public lands with the stipulation that proceeds of the sale of the land were to be used for a "seminary of learning." The Morrill Act of 1862 gave another grant of public lands to the State for the establishment of a college to teach agriculture and the mechanic arts.

The College of California, incorporated in 1855 under the leadership of the Reverend Henry Durant, offered its buildings and lands to the State in 1867 on condition that a "complete university" be created to teach the humanities as well as agriculture, mining, and mechanics. The legislature accepted, and on March 23, 1868 – Charter Day – Governor H.H. Haight signed the act that created the University of California.

From its beginning in Berkeley, the University of California has grown to total nine campuses: Berkeley, Davis, Irvine, Los Angeles, Riverside, San Diego, San Francisco, Santa Barbara, and Santa Cruz. The University also maintains research stations, field stations, and Extension centers in more than 80 locations throughout California. Public services include medical and dental clinics, information services for agriculture, and a broad program of continuing education for adults in the arts, business, and the professions.

The University of California leads all institutions in the world in the number of Nobel Laureates on its faculty. It also has more members of the National Academy of Sciences than any other University and more than 500 recipients of Guggenheim Fellowship Awards. Its library is ranked with the best in the nation in quality and in the size of its collections.

Student enrollment has reached 113,000. Of this number, about 90% are residents of California, while the remainder come from other states of the nation and from about 100 foreign countries.

University Administration

The "full powers of organization and government" of the University are entrusted by the State Constitution to the twenty-four member Board of Regents. Sixteen members are appointed to sixteen-year terms by the Governor; eight are members ex officio. The Regents Designate are alumni who will succeed to an ex officio position on the Board of Regents upon assuming the office of President of the Alumni Association of the University of California. Most of the appointed Regents also serve as trustees, consultants, directors, or advisors to other educational or cultural institutions, or to business organizations, and several of them hold UC degrees. All of the Regents are involved in public service or civic activities in addition to their service to the University of California.

The President is the executive head of the total University, appointed by and responsible to The Regents, with full authority and responsibility over the administration of all affairs and operations. Each campus is administered by a Chancellor responsible for its operation. In determining the University's educational and research policies, the President consults with the Chancellors and with the Academic Senate, which is composed of faculty and certain administrative officers. The Academic Senate authorizes all courses of instruction in the academic and professional schools and colleges. Processes for student participation in policy-making exist at several administrative levels.

Cathy Cobb, art major

the irvine campus

The University of California, Irvine is located in Orange County, 40 miles south of Los Angeles and three miles inland from the Pacific Ocean. The surrounding hills and grazing lands give the campus a rural feeling, even though an estimated two million people live within a 20-mile radius.

A total campus area of 1,510 acres is intended to allow for ample open space and is an integral part of the similarly planned City of Irvine. The buildings will radiate outward in concentric circles from a large central park; the inner circle is now almost complete. UCI maintains the adjacent San Joaquin Freshwater Marsh, a 200-acre University-owned refuge for waterfowl and wildlife.

Classes opened in October 1965 with 1,589 students, freshmen through postdoctoral. In the fall of 1972, 7,384 students were enrolled: 5,810 undergraduates, 925 graduates, and 649 students, interns, and residents in the College of Medicine.

The majority of students live off campus and commute daily, and most are dependent on cars for transportation. Student parking permits are valid for parking lots located on the perimeter of the campus. Students with or without cars can benefit from the services provided by the computerized car pool system and the share-a-ride station. Free bus service (covered within the Associated Students fee) to major housing and shopping centers in the area is available to registered students. A restaurant, cafeteria, snack bars, and vending machines provide food service on campus. The preliminary town center across from the gateway entrance to campus consists of a single building which contains general services (including a bank, malt shop, beer garden, market, travel bureau, post office, book store, and an interfaith center).

Beaches about three miles to the west are lined by communities and State Park recreation areas. Two mountain ranges and popular desert resort spas are within a two-hour drive. The climate is usually warm and dry; there is frequently a breeze from the ocean and occasional fog.

University Relations

For further information about the Irvine campus contact the University Relations Office, which is responsible for public information, publications, University and community relations, gifts and endowments, alumni relations, public ceremonies, the Speakers Bureau, and liaison with affiliate organizations: The Friends of UCI, Friends of the UCI Library, UCI Town and Gown, Big I Boosters, UCI Public Relations Council, UCI Industrial Associates, the UCI Alumni Association, the UCI Parents Organization, the Associated Alumni of the UCI-California College of Medicine, the UCI Medical Faculty Wives, and the UCI Foundation.

Relations with Schools

The Office of Relations with Schools serves as liaison between the University of California, Irvine and the other educational institutions of the state. On

the one hand, it is the spokesman for the University insofar as its educational policies affect the high schools and community colleges from which its students come. On the other hand, it interprets to the University current developments on other educational levels whose impact is felt through entering students. Office of Relations with Schools staff work with community college personnel to develop course articulation agreements and to facilitate transfer. Schools or organizations seeking such educational services are welcome to make arrangements through this office. The staff is also available as a resource to schools and education-oriented groups and will participate in college advisement programs and similar events at the schools. "ORS" sponsors various activities on campus for educational groups and prospective students, and student-led tours, for individuals and groups, may be scheduled through the staff.

Activities and Recreation

The Associated Students of the University of California, Irvine (ASUCI) was organized by and for the Irvine campus student body to give focus to student participation and activities. From the activities fee which the student body voted to levy against itself, the ASUCI organizes lectures, concerts, community projects, and many other activities administered by elected student representatives.

Academic departments and the Student Activities Office often bring guest lecturers of general interest to the campus. The School of Fine Arts, which also administers the Committee for Arts, frequently offers presentations in art, dance, concert, film, and theatre. The Student Information Center maintains a complete list of the happenings on campus.

Recreational facilities on campus include a gymnasium, swimming pool, tennis courts, handball courts, basketball courts, a baseball stadium, a track, and expansive playing fields. A comprehensive intramural sports program has been developed for students, faculty, and staff. (See page 305.)

UCI's record in intercollegiate athletics has included several NCAA championships. Irvine competes in ten sports as an independent member of the NCAA college division. (See page 305.)

INSTRUCTIONAL AND RESEARCH FACILITIES

University Library

The University Library is a rapidly growing and increasingly important resource for teaching and research with a collection of more than 500,000 volumes and a current subscription list of more than 9,000 journals and serials. The collection is housed in a functional building designed to bring students and books together. With the exception of materials housed in the Department of Special Collections and reserve books in heavy demand, all periodicals and books are on open shelves and are easily accessible to all readers. Reference books, numbering about 10,000 volumes, including bibliographies, encyclopedias, handbooks, dictionaries, and indexes, are arranged in an open shelf collection. There are librarians in the Reference Department to assist in finding information and in using the reference tools. Informal instruction in the use of collections is available at any of the public service desks. A magnetic tape cassette player containing a twelve minute self-guided tour of the library may be borrowed at the Circulation Desk.

Special facilities and staff are provided for the Government Publications Department, which contains a collection of over 135,000 documents issued by the federal government, state, local, and foreign governments, and international organizations.

The library's Department of Special Collections houses a collection of rare books, local history materials, and the official university archives.

The library copying service, supplemented by coin-operated copying machines, makes it possible to obtain reproduction service at all times. Microtext materials and various types of reading equipment are brought together in special facilities. Other special facilities include group study rooms, a map collection, and a room containing special facilities for blind and partially-sighted students. When the University is in session, the library is open 86 hours per week.

Two branch libraries, the Physical Sciences Library and the Biological Sciences Library, are located in the Physical Sciences Building and in the Science Lecture Hall. More than 900 current periodical titles are held in each library. Hours of service are the same as the General Library, and copying service is furnished in both branches. In addition, a combined library for the Museum of Systematic Biology and the Center for Pathobiology is located in the Center for Pathobiology in Steinhaus Hall.

A medical collection of over 60,000 volumes is available in Medical Surge Building II.

The Orange County Public Affairs Service contains the library's collection of current material on local affairs and provides a facility for the systematic acquisition of information and material from both governmental and non-governmental agencies in a variety of formats.

Bus service to UCLA is offered Monday through Saturday for students who need material not held in the UCI Library. Interlibrary loan service is available to the faculty and graduate students.

For a more comprehensive description of library services and procedures consult the Library Handbook, copies of which may be obtained at the Circulation Desk.

Center for Pathobiology

The Center for Pathobiology is an organized research unit established within the School of Biological Sciences to enhance the teaching programs and the research activities of its forty participating research workers, including faculty members, undergraduate and graduate students, and postdoctoral scientists. The Center provides a focus for many activities in the School of Biological Sciences: notably, developmental biology, pathobiology, and environmental biology as it relates to pest control and pollution. Development of totally new strategies for controlling insect pests with insect growth regulators and by genetic techniques is one of its primary goals. Another major goal is the analysis of normal and pathological development of insects and other invertebrates by genetic and biochemical techniques. In its role as an informational and research unit, the Center maintains two comprehensive and current reprint collections – an invertebrate pathology collection and an insect devel-

opment and genetic collection — which are accessible to workers throughout the world. Center publications include bibliographies and research reports.

Computing Facility

The Computing Facility provides concurrent interactive and batch computing service on two medium size, general purpose systems. The distinctive aspect of computing at UCI is the extent to which it is an integral part of the academic programs at both the undergraduate and graduate levels. Approximately 40% of the student body was involved with some form of instructional computing last year, the majority using an interactive terminal.

Many programming languages and library programs, such as statistical routines, are available to users. Computing instruction is offered by the Department of Information and Computer Science, other academic departments, and University Extension.

Information about computing services is available from the User Services Group, 360 Computer Science Building.

The Irvine Arboretum

The Arboretum is administered by the School of Biological Sciences. Plans for this botanic garden facility envisage the treatment of the whole campus under scientific management. Records will be kept of the location of all material planted on the campus, and particular areas will be reserved for experimental and teaching work. A number of greenhouses will be constructed; several are already in operation.

Museum of Systematic Biology

The Museum of Systematic Biology, administered by the School of Biological Sciences and under the direct supervision of the Department of Population and Environmental Biology, is a teaching and research facility for the campus. It presently contains material of local populations of plants, invertebrates, and vertebrates. Several important collections, notably research entomological collections and the Sprague Conchological Collection, are housed in the museum.

Public Policy Research Organization

The Public Policy Research Organization conducts policy-oriented research as a University-wide institution located on the Irvine campus.

The basic objectives of "PPRO" are to initiate and conduct interdisciplinary research programs relevant to current and future public problems, to carry out such research projects for government agencies as will enhance its basic research program, and to participate in the development of training programs in the field of policy research and analysis.

Current interests of PPRO include design of a survey of community mental health centers; an analysis of demographic, economic, and educational trends in the UCI area; design of improved gaming and simulation capabilities for UC; compilation of an annotated bibliography on the subject of women at work; development of health delivery systems for Orange County; appraisal of open space policies for California.

Graduate assistantships will be available for some qualified students in schools or departments of UCI who desire experience in policy research and analysis.

Jarry Orsak, biology

academic plan

UC IRVINE - 1973-1974

"forest in the tree"
Mark Resig, biology

the academic plan

The Irvine campus strives for excellence at all levels, from freshman introductory courses through postdoctoral research. Our aims are to provide an atmosphere conducive to creative work, to explore the accumulated knowledge of mankind, and to develop new knowledge through basic and applied research. Such concepts imply a constant reevaluation of programs and resources and a serious commitment from faculty, students, and administration.

Through the establishment of "schools" as the primary academic structure, UCI has given recognition to the traditional academic disciplines and has the built-in flexibility needed to accommodate the broadest interdisciplinary programs. Our intention is to avoid the intellectual isolation that results from excessive concentration in a strictly defined discipline.

There is a strong interrelation of traditionally "separate" academic disciplines: certain schools offer degrees in general fields of study, in addition to, or instead of, degrees in conventionally recognized disciplines; interdisciplinary work both within the schools and across school lines is common; more courses are offered for non-majors on all levels, freshman through senior; the campus is striving to promote the development of broader degree programs less tied to *single* majors.

Naturally, an individual student's academic program will include specific course work and a major emphasis of some kind, but a "major" at UCI tends to be more comprehensive than is usually the case at the University level. Emphasis is placed on a coherent program stressing individual interests and needs, including studies distributed among a number of fields which are often interdisciplinary in nature. In many areas where a student can demonstrate competence, he may receive credit by examination without taking formal course work.

Also important to Irvine's overall academic concept is recognition that a university provides a total environment for learning which goes beyond the regular course work of formal courses. Much depends on a student's own initiative – on how fully he takes advantage of opportunities which come to him through suggestions for further study, through informal connections with faculty and other students, and through all the accidents of association to be found in academic life. Independent study is more than simply the name of a course; it is considered an important procedure for learning.

We believe that a university education should provide the student with ways to generalize from it to the changing conditions he will find, or will create for himself, upon graduation. The student's collective university experience should give him a particular set of insights which will become the basis for his intellectual identity and lifelong learning processes. The Irvine educational experience is intended to give our students just such a foundation on which to continue developing their intellectual, esthetic, and moral capacities throughout their lives.

ACADEMIC STRUCTURE

There are five schools central to the academic structure at Irvine: Biological Sciences, Fine Arts, Humanities, Physical Sciences, and Social Sciences. Each of these schools offers majors or areas of specialization under its broad subject field. In addition to these five schools, majors and degrees are offered in three interdisciplinary programs – Comparative Culture (American and ethnic studies), Information and Computer Science, and Social Ecology (man and his environment – criminal justice, mental health). University Studies, a series of special courses for freshmen, and the Department of Physical Education offer classes but do not grant degrees.

Professional education is offered in the School of Engineering, the Graduate School of Administration, and the College of Medicine. Elementary and secondary teaching credentials are offered through the Office of Teacher Education.

Graduate studies at Irvine are administered by the Graduate Division, but all graduate programs and faculty operate within the regular departments. There is no separate graduate faculty. Graduate study, therefore, takes place within the schools and is related to undergraduate work within the departments. Most research on the campus is conducted at the departmental level and thus is also contained within the schools.

The Vice Chancellor for Academic Affairs has administrative responsibility for all programs in instruction and research. Matters of educational policy, including approval of programs, courses, and grades, are the responsibility of the Irvine Division of the Academic Senate and its committees. The Irvine Division is part of the Academic Senate of the University of California and is composed of faculty members. For further information on the administration of the entire University of California system, see page 11.

Descriptions of the schools, departments, and other programs of study are included on the following pages.

EXTENDED UNIVERSITY

The Extended University of the University of California has been formed to provide an opportunity for part-time study for the baccalaureate and master's degrees. Undergraduate Extended University programs will be limited to the upper division. These programs will permit those who are unable to pursue a course of full-time University study to enter into the University community and achieve degrees from this institution. On the Irvine campus pilot programs in the Extended University are expected to begin in 1973-74. Special admissions and academic criteria, as well as reduced fees, will apply to these programs. For further information contact the Dean of Special Programs.

DEGREES OFFERED

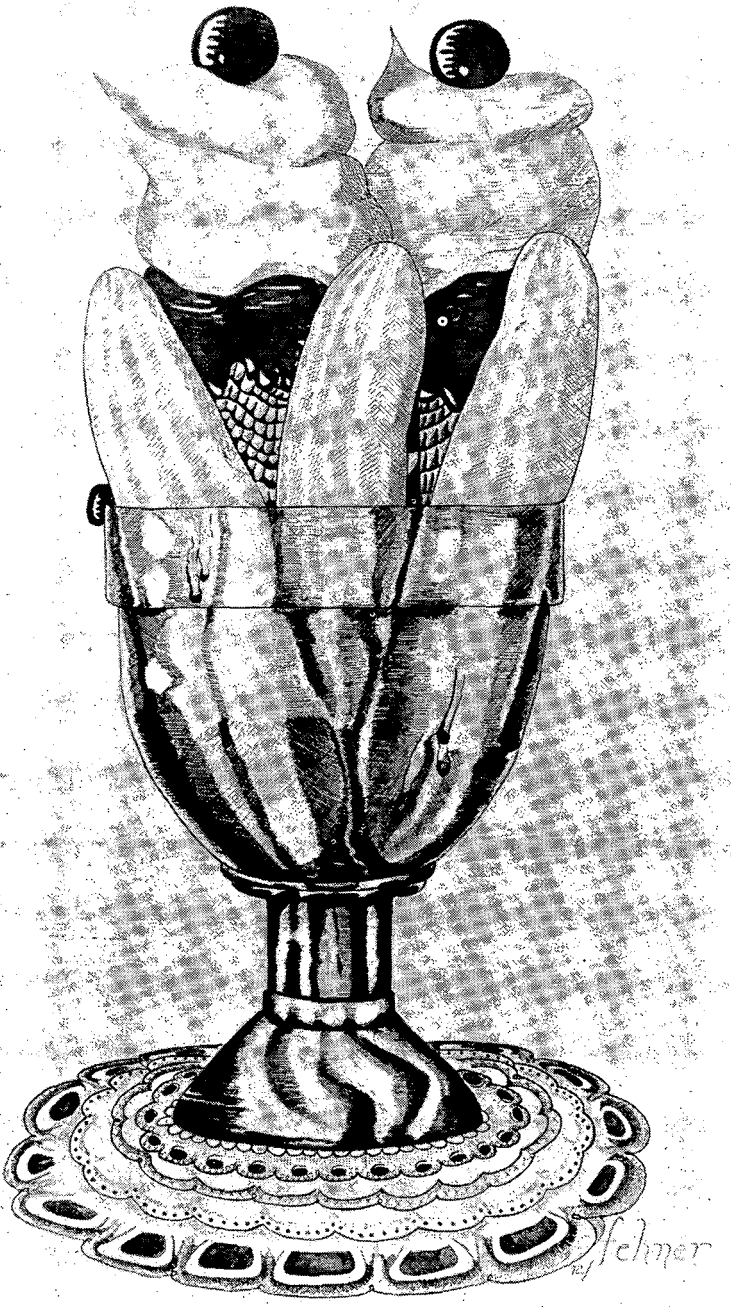
Administration ..... M.S., Ph.D.
Art (Art History; Studio) ..... B.A.
Biological Sciences ..... B.S., M.A.T., M.S., Ph.D.
With opportunities to specialize in Developmental and Cell Biology, Molecular Biology and Biochemistry, Population and Environmental Biology, and Psychobiology

Chemistry	B.A., M.A., Ph.D.
Classics (with Latin or Greek emphasis)	B.A., Ph.D.
Classical Civilization	B.A.
Comparative Culture	B.A., Ph.D.
Comparative Literature	B.A., M.A., Ph.D
Dance	B.A.
Drama	B.A.
Education — Fifth year credential program only. Secondary-Elementary	
Engineering	B.S., M.S., Ph.D.
English	B.A., M.A., M.F.A., Ph.D.
Fine Arts	M.F.A.
French	B.A., M.A., Ph.D.
German	B.A., M.A., Ph.D.
History	B.A., M.A., Ph.D.
Humanities	B.A.
Information and Computer Science	B.S., Ph.D.
Linguistics	B.A.
Mathematics	B.A., M.A., Ph.D.
Medicine	M.D.
Music	B.A.
Pharmacology and Toxicology	M.S., Ph.D.
Philosophy	B.A., M.A., Ph.D.
Physics	B.A., M.A., Ph.D.
Political Science	Ph.D.
Psychology	Ph.D.
Radiological Sciences	M.S., Ph.D.
Russian	B.A.
Social Ecology	B.A.
Social Sciences	B.A., Ph.D.
Spanish	B.A., M.A., Ph.D.

In order to receive a degree, a student must file an Application for Graduation at his dean's office the first quarter of his senior year.

Honors at Graduation

Students may graduate with honors, either *summa cum laude, magna cum laude,* or *cum laude.* The criteria used by each school in weighing candidates for these honors are included in each school's section of the catalogue.



Mike Fehner, social science

UC IRVINE - 1973-1974

planning a program

CHOOSING AN UNDERGRADUATE MAJOR

The student is expected to choose a major (a field of concentration) by the beginning of his junior year. Most majors are departmental and are therefore located in one of the schools; some, such as Comparative Culture, exist outside of the basic schools. The various possible majors are described later in this catalogue. Most major requirements allow the student to take a considerable number of courses in fields other than that which he has chosen as a major.

Programs appearing in this catalogue are subject to change, and no catalogue can give a complete idea of what a major may involve.

In preparation for choosing a major the student should consult his advisor about the possibilities which may be open to him. Even though the advisor will not be thoroughly familiar with all fields, he can suggest ways to investigate other areas of study. Students should feel free to go to any department and ask to speak to an academic advisor in order to learn more about that field, its programs of study, its requirements for admission and graduation, and possible enrollment limitations.

While some students are aware that they might like to major in one of several subjects, other students are only aware of those fields in which they do not wish to major. The task of choosing a major is therefore often one of refining these earlier impressions in the light of experience in courses, discussions with faculty and with other students, and the opening of new opportunities and possibilities. Students with absolutely no idea of the field in which they would like to major will have time to take courses in various fields and determine their specific interests.

It should be kept in mind that some major programs require specific preliminary study; that courses required for graduation or for a major which the student may later wish to elect must be considered; and that one must be cautious about excessive early concentration in a certain field, or else he may be prevented from moving to a major in a different field if he changes his mind. A student should not overlook any possible opportunities. The faculty advisor can be helpful in formulating an overall lower-division program which will keep the maximum number of possible majors open.

If certain courses are not available, then substitutions must be found. It is the function of an academic advisor to help the student plan his program on an individual basis in terms of the student's preferences.

Students anticipating graduate or professional study in a certain field should exercise special care in constructing their undergraduate programs, and they should make their career goals known to their advisors. Such choices naturally do not have to be made during the first two years, and may or may not

be made during the second two, but investigation of the possibilities of graduate or professional study will often be helpful to students who have an idea of the direction in which they would like to go.

ACADEMIC ADVISING

At the time of admission every undergraduate student at UCI is assigned for purposes of academic advising to the school or program which corresponds to the student's stated area of academic concentration (major). Students who have not yet declared an area of academic concentration at the time of admission are assigned to a school or program for purposes of academic advising; this assignment will continue until the student reaches a decision concerning a major, at which time he will submit a petition for change of major and be transferred for advising purposes to the appropriate school or program. Jurisdiction over all questions of academic regulations and academic standing rests with the dean or director of the school or program to which a student is currently assigned for purposes of academic advising. Thus, all requests to add or drop courses, petitions seeking waiver or change of graduation or other requirements, and petitions to change area of academic concentration must be processed through the office of that dean or director.

Each academic unit is responsible for maintaining a system which provides academic advising by faculty members. These systems differ among the several academic units. In some, all of the faculty serve as advisors; in others, only certain members of the faculty are designated as advisors. In each instance, however, every student will have a faculty advisor. Responsibility for informing students of the identity of their advisors rests with the dean or director of the appropriate academic unit. This is normally done by letter, but if at any time a student is uncertain of the identity of his faculty advisor he may obtain that information from the office of the appropriate dean or director. In some areas a student may arrange to change advisors if he wishes by submitting a Student Petition to that effect. A change in area of concentration often involves a change in advisor. This will always be the case when the change of concentration is to a different school or program. The new school or program will assign a new advisor and inform the student.

In some schools and programs consultation between students and their faculty advisors is mandatory. Students are responsible for knowing the governing regulations of the school or program to which they are assigned for academic advising purposes. Irrespective of whether or not consultation between a student and his advisor is required, *the student is responsible for initiating and maintaining periodic contact with his assigned faculty advisor.* An appropriate time for the initial contact is during the week prior to the beginning of the student's first classes at UCI, or earlier at the time of registration if this is possible. Thereafter, consultation between student and advisor at the time of registration for each subsequent quarter is desirable. The actual frequency of these meetings will be determined by the desires of the student, the advisor, and the governing regulations. It is the obligation of the faculty advisor to help the student plan an appropriate program of study and interpret the academic regulations of the campus, *but the student himself is solely responsible for meeting the academic regulations and remaining in good academic standing.*

In addition to faculty members, each unit provides staff who assist students with major selection, program planning, and petitions. Also, peer academic advisors, trained upper-division and graduate student academic advisors, are available to help students plan their programs, select or change majors, and arrange for tutoring as necessary. Besides furnishing counsel on such matters, these advisors dispense general campus information and refer students to the appropriate faculty and staff personnel for assistance with specific problems.

A listing of key advising personnel is provided for reference and convenience. The names of other personnel performing advising duties may be obtained directly from the academic units.

Advising Personnel

School of Biological Sciences		
Howard A. Schneiderman, Dean	329 SH	833-5314
Richard E. Whalen, Associate Dean and Chief Academic Advisor	335 SH	833-5242
Carol D. Heckman, Counselor	335 SH	833-5318
Program in Comparative Culture		
Peter Clecak, Director	243 HOB	833-7136
Ernie Smith, Chief Academic Advisor	240 HOB	833-5895
Jeanne Solak, Counselor	259 HOB	833-7135
School of Engineering		
Robert M. Saunders, Dean and Chief Academic Advisor	305 EGR	833-6003
Marion Murphy, Counselor	355 EGR	833-6749
School of Fine Arts		
Clayton Garrison, Dean	249 FA	833-6611
Peggy Wood, Counselor	249 FA	833-6611
Betty Tesman, Professional Advisor	246 FA	833-6607
School of Humanities		
Robert Montgomery, Acting Dean	500 HOB	833-5131
Alice Laborde, Chief Academic Advisor	340 HH	833-5132
Cathy Smith, Counselor	338 HH	833-7712
Department of Information and Computer Science		
Martin Kay, Director	360 CS	833-7303
Robert Bobrow, Chief Academic Advisor	458 CS	833-5517
Rosemarie Allen, Counselor	438 CS	833-7306
School of Physical Sciences		
Frederick Reines, Dean	220 PS	833-6506
Clare Wilkerson, Counselor	220 PS	833-6507
Program in Social Ecology		
Arnold Binder, Director	716 EGR	833-5911
Michael O'Neill, Chief Academic Advisor	744 EGR	833-4194
Lesley Cummings, Counselor	716 EGR	833-7591

School of Social Sciences

Creel Froman, Dean	603 SST	833-6801
Richard Degerman, Associate Dean and Chief Academic Advisor	723 SST	833-7808
Carol Nance, Counselor	627 SST	833-6803

Administrative Personnel

Hazard Adams, Vice Chancellor – Academic Affairs	833-5105
John Hoy, Vice Chancellor – Student Affairs	833-5515
George Roberts, Assistant Vice Chancellor – Academic and Student Affairs	833-7595
John M. Whiteley, Dean of Students	833-5137
Joaquin Sanchez, Director of Special Services	833-7911/2/3/4
Julius Singbeil, Director of Counseling Services	833-7745
Patrick Moore, Coordinator, Peer Academic Advising	833-7745

CAREER PLANNING

For those students who do regard their undergraduate education as preparation for specific professional goals, Irvine offers both conventional and interdisciplinary programs covering a wide range of options. Please see school and departmental write-ups for more inclusive coverage of programs offered.

The information given below is intended to familiarize students with some of these options and instructional programs. Students considering graduate or professional study should check early with the school or program they seek to enter for specifics on entrance requirements.

Graduate Study

Many students wish to pursue graduate work in academic units of Universities, leading to M.S., M.A., and Ph.D. degrees. Such students should supplement their undergraduate program by anticipating language requirements at major graduate schools and by intensive work in areas outside the school or program of their major that are of special relevance to their intended graduate work. Information on the Graduate Division at Irvine can be found on page 83.

Dentistry, Medicine, Nursing, Veterinary Science, and Allied Paramedical Areas

Career counseling for those interested in the health sciences is available through the School of Biological Sciences. A student who plans such a career may receive his training by completing the major in Biological Sciences or majoring in any school or department, but fulfilling concurrently the specific course requirements (e.g., organic chemistry) of the dental, medical, nursing, or veterinary school he expects to attend, or choosing an appropriate interdisciplinary program.

Leaders in dental, medical, and veterinary education recommend that students preparing to seek admission to dental or medical schools plan to obtain a Bachelor's Degree. Rather than requiring specific premedical courses, many dental and medical schools now prefer that their students come to them with the type of basic training in the biological sciences (with prerequisites in physical sciences, social sciences, and humanities) offered at Irvine.

A number of programs enable a student to pursue a variety of careers in the broad area of health sciences. All of these programs are also suitable for pre-medical students.

Program in Environmental Health

The rapid changes in environmental quality which are occurring at the present time have created the need for environmental health and quality experts. A program designed to equip a student in the necessary biological background and an understanding of community health care and environmental problems is being offered jointly by the School of Biological Sciences and the Program in Social Ecology. This four-year program satisfies degree requirements of Biological Sciences and Social Ecology.

Health Administration

There is a growing need for administrators in the health sciences. The "three-two program" offered by the Graduate School of Administration enables biological sciences majors to spend their senior year and one additional year in the Graduate School of Administration. Students in this program can obtain a B.S. in Biological Sciences and an M.S. in Administration.

Environmental Management

The Schools of Engineering and Biological Sciences offer a program in Environmental Management. This program provides the necessary educational background for students wishing to pursue careers dealing with the impact of the environment on matters of public policy and society in general. This four-year program satisfies B.S. degree requirements in Engineering and Biological Sciences.

Health Education

It is possible for students at Irvine to become credentialed teachers of Health Education. This will involve a total of five years. Students take a joint major in Biological Sciences and Social Ecology and in their fifth year satisfy the requirements for a teaching credential.

Teaching

Students planning to become teachers can qualify at UCI for the Standard Teaching Credentials with a specialization in elementary, secondary, or junior college teaching. *All credentials require three quarters of work beyond the Bachelor's Degree.*

In their undergraduate work at Irvine, students can major in any of the departments of the various schools; for their electives they should choose courses that will satisfy the requirements for teacher certification. Students should consult with their advisors or with the Office of Teacher Education to determine these requirements. For further details on preparation for teaching, see page 309.

Business and Public Administration

While there are no undergraduate degree programs in business and public administration offered at UCI, it is possible to enroll in a special five-year program (commonly referred to as the "three-two program") offered by the Graduate School of Administration in conjunction with other schools and programs on this campus. This program leads to a Bachelor's Degree in the

appropriate field and a Master's Degree in Administration. Application for admission to the program is made early in the junior year. With respect to other schools of administration, students particularly interested in business or public administration are usually advised to get some background in economics and political sciences. Students wishing to prepare for the program of study in the Graduate School of Administration at UCI should choose electives to meet the general admission requirements of that program.

Law

Students wishing to enter law school may prepare by majoring in any academic unit. Law schools in general do not require specific courses for admission, but it is important that pre-law students have a thorough understanding of the subtleties of language and a facility with its use, both written and oral. Students are also advised to take undergraduate courses designed to develop the ability to write, to think, and to reason logically. For further information about pre-law curriculum planning, students should contact the pre-law advisor in the school of their major.

Library Science

The minimum requirement for admission to a school of Library Science is the baccalaureate degree in a recognized field. In addition, some schools require a reading competence in one or more foreign languages, a course in college mathematics or statistics, and some familiarity with computer science. Counseling for students interested in a career in Librarianship may be obtained from the Library Personnel Director. Librarianship provides an opportunity to apply subject or foreign language interests and training in specialized or non-specialized intellectual and service environments. Types of libraries are: elementary and secondary school libraries, community college libraries, college and undergraduate university libraries, and public libraries.

SUPPLEMENTARY EDUCATIONAL PROGRAMS

Education Abroad Program

The Education Abroad Program offers opportunities to undergraduate and graduate students of the University of California to study for credit in universities overseas, and serves also as a source of information on all types of educational exchange experiences.

Study centers have been established in France, Germany, Ghana, Hong Kong, Israel, Italy, Japan, Lebanon, Mexico, Kenya (Nairobi), Norway, Spain, Sweden, the United Kingdom, and Ireland. Participants generally spend from nine to eleven months abroad, including a special orientation program, six or seven weeks of intensive language preparation, a full academic year in the university of their choice, and some vacation travel.

For information about eligibility, deadlines, financial aid, or for further material concerning particular centers abroad, consult Helen Stanley, Trailer 409, telephone (714) 833-6343.

Summer Sessions

Two summer sessions will be held on the Irvine campus. Session I will run from June 17 to July 24, 1974. Session II will be from July 25 to August 30,

1974. Students may enroll in either or in both sessions. Those who enroll in both take an academic program equivalent to a regular quarter, thus accelerating their progress toward a degree.

A wide variety of courses from the regular sessions is planned, supplemented by experimental offerings available only during the summer. Admission is open to all university students, high school graduates, and to qualified applicants over 18 years of age. Admission to Summer Session does not constitute admission to a regular session of the University; therefore, official transcripts of educational records are not required. Fees for Summer Session are the same for out-of-state students as for California students.

Information regarding Summer Session may be obtained from the Summer Session Office in the Computer Science Building, telephone (714) 833-5493. Catalogues and application forms will be available in February.

University Extension

University Extension programs are designed to provide educational opportunity to adults for professional upgrading, personal growth through cultural programs, and more effective participation in civic affairs. In the broader social view, it is the assigned task of University Extension to provide the mechanism by which the resources of the University can be applied to the more rapid solution of statewide and urban problems.

A variety of methods are used to implement these aims: classes, lecture series, discussion groups, correspondence courses, conferences, institutes, and short courses.

Extension programs in Orange County are offered on the UCI campus, at Buena Park High School, and at other locations. For detailed information, write or telephone the Extension Office of UCI in Room 1325, Crawford Hall, telephone (714) 833-5414.

"the two bums"
Phil Stafford, humanities

requirements for a bachelor's degree

UNIVERSITY REQUIREMENTS

UC Requirements

1. English ("Subject A"). Every undergraduate must demonstrate upon entrance to the University an acceptable level of ability in English composition. This requirement may be met *before entrance* by:

   a. Achieving a grade of 5, 4, or 3 in the College Entrance Examination Board (CEEB) Advanced Placement Examination in English, *or*

   b. Achieving a score of 550 or higher in the CEEB Achievement Test in English Composition, which all entering freshmen must take before admission (only students who have not taken the CEEB test before will be allowed to take the CEEB at the beginning of fall quarter. They should contact the Subject A Office for information before Orientation Week, telephone 833-6717), *or*

   c. Entering the University with credentials showing the completion of an acceptable college-level course in English composition with a grade of C or better.

Satisfaction of the Subject A requirement is determined by the Office of Admissions. Students who have not met the requirement prior to their enrollment may do so by enrolling in the Writing Clinic offered by the School of Humanities. All Subject A students must meet the requirement *during their first year of residency in the University*, must pay (once) a nonrefundable fee of $45, and must repeat the course until such time as the Subject A requirement is satisfied.

2. American History and Institutions. This requirement may be met by one of the following:

   a. Completion in high school of one year of United States History with grades of C or better, *or* one semester of United States History and one semester of United States Government with grades of C or better.

   b. Receiving a score of 5, 4, or 3 in the Advanced Placement Examination in United States History.

   c. Receiving a score of 500 or higher in the CEEB Achievement Test in American History and Social Studies.

   d. Presentation of a certificate of completion of the requirement at another California institution.

   e. Completion of one year of college level United States History with grades of C or better, *or* one course in United States History and one in United States Government with grades of C or better.

f. Passing an examination in these subjects. (Students should contact the Undergraduate Study Office, School of Humanities, for further information about the examination.)

UCI Requirements

3. Breadth requirement* (the "6-3-3 requirement"). Rather than prescribing specific courses or areas, the faculty simply states that a given portion of a student's course work should be in areas outside his major. This requirement may be met by taking course work in three schools (Schools of Biological Sciences, Fine Arts, Humanities, Physical Sciences, or Social Sciences) or, by petition to the student's academic dean, work in Comparative Culture, Information and Computer Science, and Social Ecology, in Engineering, or in undergraduate courses taught in the Graduate School of Administration, outside the school of the student's major, as follows:

   A student must take *six* courses in one school outside his major and *three* courses in each of two other schools outside his major.

4. Credit for 45 courses (180 quarter units), earned by examination, by other evaluation, or course work. (A course normally offers four quarter units of credit.)

5. A grade average of at least C.

6. Credit for the last three quarters of work immediately preceding graduation earned in residence on the Irvine campus (i.e., a minimum of one year full-time attendance at UCI). An exception to this rule is allowed in the case of students enrolled in the Education Abroad Program, who may be allowed to complete nine of the last 22 courses, including the final three courses, in residence.

Proficiency in English and Foreign Languages

Beyond the general English requirement ("Subject A," described on p. 31), there are no general course requirements in English composition for students at UCI.

Although there are no general requirements in foreign languages for students at UCI, some departments do have requirements; see below. Students considering graduate education should bear in mind that the ability to read one or more foreign languages is a requirement of most graduate schools.

SCHOOL AND DEPARTMENTAL REQUIREMENTS

The following school and departmental requirements for the Bachelor's Degree are in addition to the University requirements listed above. Some schools do not have school requirements; in these cases, a student majoring in one of these schools simply has to fulfill the University and the departmental requirements. The University, school, and departmental requirements may overlap. That is, courses taken to fulfill a school or departmental requirement (e.g., the physics course requirement in the School of Biological Sciences) may also help fulfill the University breadth requirement.

*The breadth requirement does not apply to students majoring in the School of Engineering.

The student should have determined his area of concentration no later than the beginning of the junior year, having made certain that he has the background and the preparation necessary to accomplish junior and senior work in his major.

Transfer students should assume that equivalent courses taken elsewhere will fulfill school and departmental minimum course requirements for graduation (see the section on "Planning for Transfer to UCI," p. 62).

In the following list of course requirements, "lower division" refers to courses numbered 1-99; "upper division" refers to courses numbered 100-199. Courses numbered 200 and above are graduate courses. "Lower division" usually refers to freshman-sophomore courses, "upper division" to junior-senior courses. However, junior and senior students may take lower-division courses, and freshmen and sophomores may take some upper-division courses.

School of Biological Sciences

Biological Sciences Core Curriculum (101A-B-C-D-E-F-G, 101LA-B-C-D-E-F); minimum of three satellite courses (see p. 104); Chemistry 1A-B-C, 1LA-B-C; Chemistry 51A-B-C, 51LA-B-C; Humanities 1A-B-C; Mathematics 2A-B-C or 2A-B and 7; Physics 3A-B-C, 3LA-B-C or 5A-B-C, 5LA-B-C.

School of Fine Arts

No School requirements.

Departmental Requirements

Art – Studio Major: One years work in visual fundamentals (30A-B-C); one years survey in history of art (40A-B-C); two courses in modern art history (108, 109, 109N, 129); six upper-division studio courses (145 through 198); two additional upper-division studio or art history and criticism courses (100 through 198); three courses in Fine Arts outside the departmental major (these courses may be taken on Pass/Not Pass).

Art History: One year survey in history of art (40A-B-C); nine upper-division courses in art history, with at least one course in each of the following areas: Ancient (100, 100N, 101, 102), Medieval (103, 103N), Renaissance (104, 104N, 105, 105N), Baroque (106, 106N, 107), and Modern (108, 108N, 109, 109N, 110N, 128, 129); three courses in Fine Arts outside the departmental major (these courses may be taken on Pass/Not Pass).

Dance – (See p. 128 for conditions for entering the department as a major.) Performing Major: Four years studio work in ballet (30A-B-C, 35A-B-C, 130A-B-C, 135A-B-C); three years studio work in free-style (40A-B-C, 45A-B-C, and 140 for three quarters); two years studio work in jazz (50A-B-C, 55A-B-C); one years work in theory (20A-B-C); one years work in music for dancers (120A-B-C); one course in dance notation (65A); three courses in history of dance (110A-B-C or 112A-B-C); three courses in choreography (155A-B-C); two courses in acting (Drama 30A-B); participation in dance performance.

Teaching, Criticism, or Choreography Major: Three years studio work in ballet (30A-B-C, 35A-B-C, 130A-B-C); two years studio work in free-style (40A-B-C, 45A-B-C); one years studio work in jazz (50A-B-C); one years work in theory (20A-B-C); one years work in music for dancers (120A-B-C);

three courses in history of world dance (110A-B-C); three courses in dance notation (65A-B-C); three courses in choreography (155A-B-C); two courses in acting (Drama 30A-B); participation in dance performance. All transfer students are required to audition before declaring themselves as majors in dance.

Drama – One year survey in the development of dramatic literature (40A-B-C); one year in acting (30A-B-C); one year in design (100A-B-C); two upper-division courses in dramatic literature (140 through 150); six upper-division courses in addition to the two in dramatic literature mentioned above (these may be in studio work and/or in dramatic literature, playwriting, film-writing, and criticism); three courses in Fine Arts outside the departmental major, including two consecutive quarters (which are equivalent to one course) in dance (these courses may be taken on Pass/Not Pass); participation (acting or technical) in at least one major University Theatre production a year (160).

Music – (See p. 136 for conditions for entering the department as a major.) Two years work in theory (30A-B-C, 130A-B-C); two years work in musicianship (5A-B-C, 15A-B-C; Music 5A-B-C to be taken concurrently with 30A-B-C and Music 15A-B-C to be taken concurrently with 130A-B-C); one years work in history and literature of music (40A-B-C) to be preceded by 30A-B-C; one years work in counterpoint (135A-B-C); one years work in form and analysis (155A-B-C); three upper-division courses in history and criticism of music (selected from 140 through 145, 152A-B-C); three courses in Fine Arts outside the departmental major (these courses may be taken on Pass/Not Pass); command of piano; participation in the chorus, orchestra, or in chamber music each year; a senior recital; and a senior examination covering an assigned representative repertory drawn from the total history of music. All music majors who are studying an orchestra or band instrument, or the piano, are required to enroll in Instrumental Ensemble each quarter of residence. All music majors studying voice are required to enroll in Chorus (Music 162) and Vocal Performance (Music 163) each quarter of residence. All transfer students are required to audition before declaring themselves as majors in music.

School of Humanities

(These School requirements apply only to freshmen entering college in the fall of 1971 and thereafter.)

Freshmen and sophomore majors are required to consult with their assigned academic advisors at least once per quarter (no later than the second week of a quarter). An advisor will give his written approval of a student's program only when he is convinced it is an intelligent one and will prepare the student properly for upper-division work.

Humanities 1A-B-C (each equivalent to two courses) in the freshman year. The Subject A requirement may be satisfied while this course is being taken. With the Dean's consent transfer students may substitute equivalent experience in literature, philosophy, and history in a previous institution for the core course.

Two years of a single foreign language or its equivalent (generally satisfied by 1A-B-C and 2A-B-C or equivalent high school credit) completed as soon as possible.

Departmental Requirements

Classics – Two separate majors: Classics (with an emphasis in Greek, Latin, or Linguistics) and Classical Civilization.

Classics (Greek emphasis): Greek 2A-B-C; three literature courses on the Greek 100 level; Greek 110; Latin 1A-B-C; Latin 2A-B-C.

Classics (Latin emphasis): Latin 2A-B-C; three literature courses on the Latin 100 level; Latin 110; Greek 1A-B-C; Greek 2A-B-C.

Classics (Linguistics emphasis): Two possible areas of concentration: Greek concentration – Greek 100A-B-C; Greek 110; Latin 2A-B-C; Linguistics 50, 101, 102, 103 (Greek 120 recommended), *or* Latin concentration – Latin 100A-B-C; Latin 110; Greek 2A-B-C; Linguistics 50, 101, 102, 103 (Latin 120 recommended).

Classical Civilization: Latin (or Greek) 1A-B-C; Classics 151, 152, 153; at least one each from the Classics 160 and 170 series; three additional courses in classical history, classical philosophy, classical art, or classical civilization approved by the Classics Department.

Comparative Literature – Sufficient competence in a foreign language, either modern or classical, to be able to deal with any standard literary or critical text in that language with facility. If the student intends to continue with graduate work, it is highly recommended that he begin the study of a second foreign language before graduation.

A three-quarter lower-division sequence: normally CL 50A-B-C or English 28A-B-C.

About ten upper-division courses. Normally these will include CR 100A-B, CL 100, CL 102, and CL 103; suitable upper-division course work in the literature of a foreign language; appropriate study in English and American literature; and further study in literature or allied fields as recommended by the advisor. Passing performance in the Bachelor's Examination or three appropriate CL 102s.

English – English 28A-B-C; CR 100A-B; CL 100; E 102A-B-C; four courses above 102, at least two of which must be 103; competence in a foreign language equivalent to six quarters of work at Irvine plus one course in a foreign language where texts are read in the original language. Normally students electing a writing emphasis will take not as many of the period and genre courses but a total of more courses in English than the usual major. All students will be required to pass the senior comprehensive examination sequence (E 102A-B-C).

French – French 100A-B, 101A-B-C, and one of the following two groups: (A) Literature: Seven other upper-division courses, of which at least five must be in literature. (B) Culture and Civilization: Seven other upper-division courses, of which at least four must be in culture and civilization.

German – German Major with Literature Emphasis: German 100A-B-C; 101; eight literature courses drawn from German 102-199.

German Major with Linguistics Emphasis: German 100A-B-C, German 101; two literature courses drawn from German 102-199; German 180; German 205; Linguistics 50, 102, 103, and 151.

History – History 29A-B-C or, for upper-division transfer students, a year-long survey in history; seven additional upper-division courses, including one Historiography (100A, 100B, or 100C); History 190A-B (Senior Seminar).

Linguistics – Linguistics 50, 101, 102, 103; four additional upper-division linguistics courses; three courses beyond 2C in or about a single foreign language; three courses of a non-Indo-European language or three courses of Greek or Latin.

Philosophy – Philosophy 20A-B-C; Philosophy 50; two of the following: 100A-B, 110A-B, 115A-B; two additional quarter courses from Philosphy 101-199.

Russian – Russian major with emphasis on literature: Russian 100A-B-C; 101A-B-C; 151A-B; 160A-B; any two of the following: Russian 155, 180, 181.

Russian major with emphasis on linguistics: Russian 100A-B-C; 101A-B-C; two courses from 151A-B and 160A-B; Linguistics 50; 101; 102; 103.

Spanish – Spanish 10A-B, 11, 101A-B-C; 110A or 110B or 110C; Linguistics 50; plus one of the following four groups.

Literature: Four upper-division courses in literature with a minimum of one in Spanish-American literature and one in Spanish literature.

Culture: Two courses in Latin-American literature; Spanish 110A-B-C.

Linguistics: Linguistics 101, 102, 103; and any upper-division Spanish linguistics course.

Bilingualism and English as a Second Language: Three courses in Comparative Culture (1A-B and a quarter course in Chicano Culture); a course in Methods of Bilingual Education and E.S.L.; a course in Contrastive Analysis (Spanish 187 or 200).

School of Physical Sciences

The School makes no specific English course requirements but does require that students have the competence to express ideas in written English with clarity and precision.

Departmental Requirements

Chemistry – Basic Requirements: Mathematics 2A-B-C, Physics 5A-B-C and 5LA-B-C (or 3A-B-C and 3LA-B-C), Chemistry 1A and 1LA, Chemistry 1B-C or 11B-C and 1LB-C or 11LB-C, Chemistry 51A-B-C and 51LA-B-C, Chemistry 131A-B-C (or 130A-B-C), Chemistry 151 (or 150).

Electives: Five courses chosen from the Elective List (see p. 206). These must include at least two chemistry courses (Chemistry 180 may be counted no more than once) and at least one of the laboratory courses in the following laboratory course group: Chemistry 152, Chemistry 153, Chemistry 160, Chemistry 170, Biological Sciences 125, Physics 150, Physics 151, Physics 152, Physics 153.

Scientific Breadth Requirement: A total of six additional 4- or 5-unit courses chosen from the offerings of the Departments of Mathematics and Physics

and the School of Biological Sciences. (These may be taken on a Pass/Not Pass basis subject to the usual restrictions on Pass/Not Pass enrollment.)

Mathematics – Mathematics 2A-B-C and 3A-B-C; 12 upper-division or graduate courses in mathematics including Mathematics 120A-B-C and Mathematics 140A-B-C; three additional courses in chemistry, mathematics, physics, or information and computer science; three years of high school study or one year of college study in French, German, or Russian (in extraordinary circumstances a student may satisfy this requirement by passing a special examination administered by the Department of Mathematics).

These requirements apply to students entering UCI as freshmen in 1972-73 or afterwards. Upper-division students should consult the departmental advisor to be certain of the requirements applicable to them.

Physics – Physics 5A-B-C-D-E with laboratory; six quarter courses numbered between 110 and 149; two quarters of advanced laboratory (Physics 151-153); Mathematics 2A-B-C; Mathematics 3A-B-C or 140A-B-C; three courses from Mathematics 141A-B-C, 142A-B-C, 144A-B-C, or Physics 161A-B-C with Physics 161A-B-C particularly recommended; and three additional upper-division courses chosen from the Schools of Physical Sciences, Biological Sciences, Engineering, or the Department of Information and Computer Science. Alternative requirements will be developed for students with special interests.

School of Social Sciences

A. Fifteen courses in Social Science, with the following restrictions: (1) Two courses from Social Science 1-9; (2) Nine courses from Social Science 100-199, to include either a three course module, or a group of three related courses approved in advance by the student's advisor; (3) Four additional Social Science courses from any level.

B. Mathematics 5A-B-C, or Mathematics 2A-B-C.

C. A one-quarter course in computer science.

All students who satisfy the above requirements will receive a degree in Social Science. If a student elects to concentrate in a subfield, certification is normally based on a petition approved by two faculty members in the field and the Dean.

School of Engineering

The UCI breadth requirement, described on page 32, does not apply.

The basic undergraduate program in Engineering consists of the Engineering core (Engineering 100A-B-C, 101A-B, 105, and 106A-B), seven additional Engineering courses, six mathematics courses, eight courses in basic science, one course in computer science, nine breadth courses, three technical elective courses, and three free elective courses. The manner in which the student selects the unspecified courses determines the option or area of concentration. At the present there are five designated: Electrical, Civil and Environmental, Mechanical, and General Engineering, and Environmental Management (multiple major). For details see page 321.

Comparative Culture

The Program in Comparative Culture offers three alternative emphases in its undergraduate curriculum. Students wishing to emphasize a particular ethnic/cultural area, or areas, of study should follow *Plan A,* which requires 48 units (12 courses) of upper-division work in the areas presently available in the Program: Black, Chicano, "American", African, Asian, Latin American, etc. Those wishing to follow a discipline-oriented course of study should choose *Plan B,* which also requires 48 units (12 courses) of upper-division work. In this plan, the emphasis is on the specific disciplinary and interdisciplinary perspectives represented in the Program (*e.g.,* economics, anthropology, history, aesthetics, literature, etc.). Thus, students following either Plan A or B may participate in the same classes: the difference will be in their choice of disciplinary emphasis. *Plan C* involves a contract – made at the end of the sophomore year – between the individual student and the Comparative Culture Major Committee. In this third plan, the student designs an individualized curriculum revolving around a particular theme, topic, or problem in cross-cultural and/or interdisciplinary culture study. Each plan must be approved by the Comparative Culture Major Committee.

All Comparative Culture majors are required to take the Core Course (Comparative Culture 1A-B), and three sections of Comparative Culture 10, and to fulfill a two-year language requirement. Students entering the Program in the freshman year should fulfill these requirements during the first two years of study. Junior transfers or students entering the Program after the freshman year should consult the undergraduate academic advisor to arrange the details of their program.

Information and Computer Science

Mathematics 2A-B-C, 6A-B-C, and three quarters of a coherent unit of any upper-division mathematics course. As a suggestion, students with interests in mathematical applications to physical science may wish to take 105A-B-C or 143A-B-C; those interested in the social or biological sciences may wish to take 130A-B-C, 131A-B-C, or 191A-B-C; and students interested in the theoretical aspects of computer science may wish to take 120A-B-C, 150A-B-C, or 155A-B-C. Any upper-division mathematics class except 192 is acceptable for the third year mathematics requirement. Information and Computer Science 1, 2, 3, 110A-B, 120A-B, 130A-B, 190A-B-C.

These requirements are under study and may be changed in the future. Students should consult the Departmental Information Bulletin, issued in fall 1973.

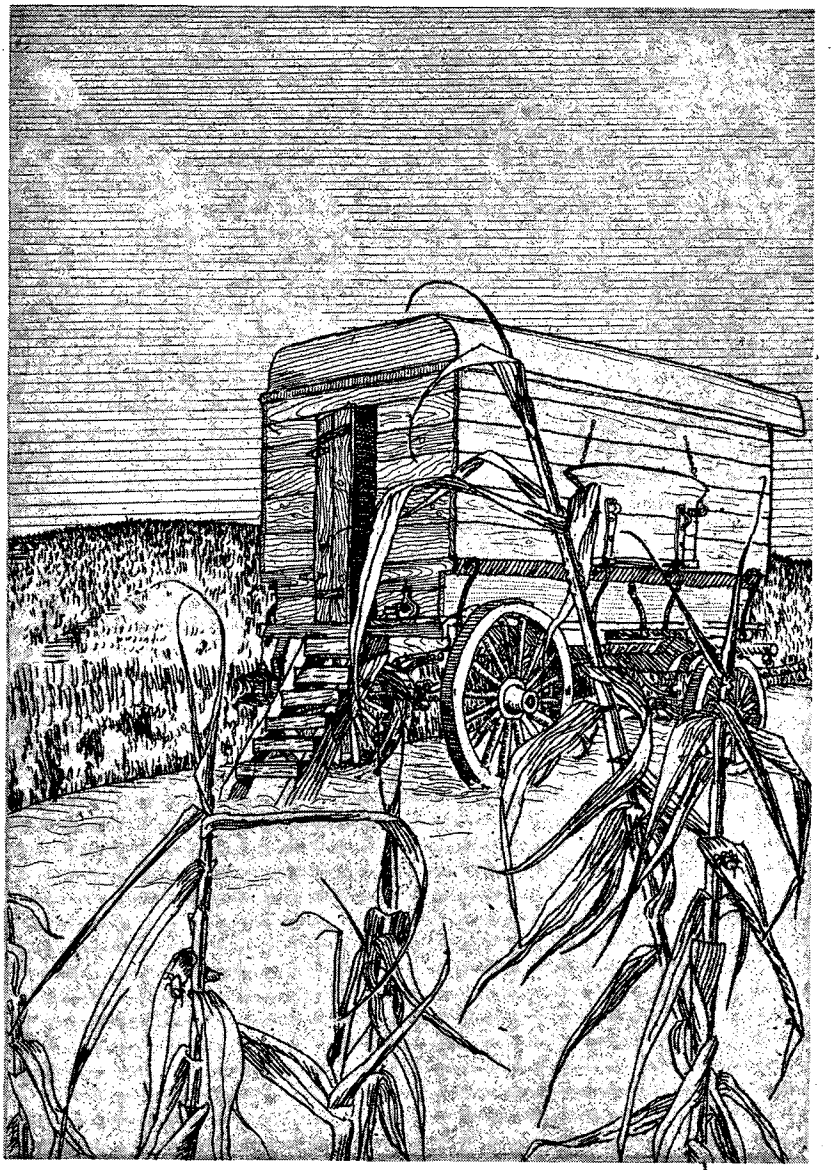
Social Ecology

Social Ecology 1; any three courses from the introductory sequence (Social Ecology 2 through 9); Social Ecology 10; appropriate preparatory courses for the field study paths undertaken; between three and six quarter courses of Field Study (Social Ecology 197); and four upper-division courses in Social Ecology (those numbered 100 or above).

Cynthia Kelley, art major

student affairs

UC IRVINE - 1973-1974



"the students wish they were gypsies"
Don Button, education

UC IRVINE - 1973-1974

student affairs

The Vice Chancellor for Student Affairs has responsibility for a full range of activities designed to serve the student. The various offices described below are primarily student centered and accept the challenge of making their services more responsive to student concerns, and, when necessary, of extending them to fit expanding student values.

We also feel that a program in student affairs must serve an educational purpose. It is the obligation of any university to assume that students have a legitimate voice in the policies of their campus, and that students must not only speak out on issues, but also have an active role in every aspect of the campus with which they are involved. However, this cannot be handled by measures which are expedient or improvised only as issues arise. It is our responsibility to draw students into the decision-making process in such a way that students may also implement their decisions and be held accountable for them. This involves more than the traditional device of giving students representation on a smattering of non-controversial committees and advisory teams, but in finding a full and practical way by which students can assume part of the responsibility for running their campus.

Through assuming a student advocate role, the student affairs staff hopes to foster a level of trust and mutual engagement leading to student participation in all areas. Bi-weekly meetings of the Vice Chancellor's staff are open to students.

DEAN OF STUDENTS

The services and agencies listed below are coordinated by the Dean's office. Any difficulties students might encounter that do not fall under the specific listings can be referred to this office for clarification.

Student Services

Certain special areas are handled in the Student Services Office: students who are physically disabled, international students and scholars, orientation, commencement, and questions concerning veteran benefits. The Student Services Office is in Trailers 702-704 (behind Humanities Hall), phone 833-7244.

Physically disabled students at UCI can receive assistance with all areas of campus life. Students or their counselors are encouraged to contact the Student Services Office.

International students and scholars will find the Student Services Office helpful in obtaining documentation for visas, extensions, work permits, etc. Assistance is also provided for locating off-campus housing, host family programs, and personal counseling.

UCI students who receive benefits from the Veterans Administration or other Federal agencies for veterans affairs, or have questions concerning eligibility,

should seek assistance in the Student Services Office. Certification of attendance at UCI can be obtained here for V.A. purposes.

An additional function of the Student Services Office is the coordination of orientation programs for students new to UCI. We consider orientation to be an integral part of each student's educational experience. Orientation is not only a beginning, but it is also a process that continues, both formally and informally, throughout the student's collegiate career.

The orientation programs include: Irvine Information Day – a one-day seminar in the spring on housing, admissions, financial aid, and academic programs; California College of Medicine Orientation – a program in late June for students entering medical school; the Student Parent Orientation Program (SPOP) – a live-in weekend program for new students and their parents to introduce them to UCI prior to the beginning of classes; Transfer Student Program – the last weekend in August is devoted to the special needs of transfer students with emphasis on academic advising; Uni-Prep – a 12-day live-in program concentrating on the exploration of self through personal and vocational testing, speed reading and study skills, and general discussion on higher education; Fall "O" Week – the week before classes begin affords new students a chance to explore their academic program, identify campus resources, and meet one another; Winter and Spring Orientation – one-day informal orientation programs for the fewer number of students entering during mid-year.

Financial Aid

Lack of funds need not be a barrier to attending UCI. Students who show that they need financial assistance in order to attend are eligible for financial aid through the Financial Aid Office. In addition to awarding aid on the basis of financial need, the office also administers a few scholarship programs that are based primarily on academic excellence.

To obtain financial aid, students must file an application with the Financial Aid Office as early as possible before the April 15, 1974 deadline; applications filed after April 15 will be considered only if sufficient funds are available. Undergraduate students who are applying for scholarships must have their applications filed by January 15, 1974.

The University expects the students and their parents or spouses to contribute toward the costs of their education to the extent possible. In addition to filing a basic application, applicants for financial aid must also submit various supporting materials that the Financial Aid Office uses to determine each student's financial need.

For students who are financially dependent on their parents, a Parents' Confidential Statement must be filed. Analysis of this statement determines the amount a student's parents can be expected to contribute to the cost of the student's education.

Students independent of their parents must file a Student Financial Statement and an Affidavit of Financial Independence from Parents. Analysis of this statement determines the amount a student and his or her spouse can contribute to the cost of the student's education.

The various financial aid forms, along with detailed instructions on filing, are available from the Office of Financial Aid, Library-Administration Building, Room 1441.

Students who receive financial aid will be given funds from one or more of the following sources: scholarships, grants, loans, and employment. These sources are described briefly in the following sections; more detailed information can be obtained from the Financial Aid Office.

Scholarships

Regents' scholarships, one of the highest honors conferred upon UC students, are awarded on the basis of academic excellence and exceptional promise, without reference to financial need. Students are eligible upon graduation from high school or upon completion of the sophomore year of college. Medical students are eligible during any year of their study in medical school. The appointments run for four years for students entering from high school or two years for students appointed after their sophomore year. Regents' Scholars receive a $100 honorarium the first year of their appointment and a stipend each year to cover the difference between their resources and the yearly standard cost of education.

President's and University scholarships are offered to entering and continuing students who show evidence of high scholastic attainment and financial need. These awards are renewable by submitting an application for consideration each year.

Other special scholarships are available to students who qualify. While a student may not apply for a specific scholarship, applicants with special qualifications will receive careful consideration. Students who are not continuing students at UCI should also include official high school and college transcripts.

Grants

The University of California Grants Program is established to provide grants-in-aid for undergraduate, graduate, and medical students with exceptional financial need.

Federal Education Opportunity Grants are available for undergraduate students only. The basic purpose of this program is to assist students whose exceptional financial need would prevent their attending college. Grants range from $200 to $1,000 a year, but in every case must amount to less than one-half of the total financial aid awarded. Grants are renewable if the student continues to have financial need and maintains good standing.

Educational Fee Grant is a University grant available to new students during their first year of enrollment. Only residents of the State of California are eligible. The amount of the grant is determined by financial need, but cannot exceed the costs of the Educational Fee.

Improved Access Grant is a University grant available to students who transfer to UCI with junior or senior status and have a 2.0 cumulative grade point average. Preference is given to transfer students from community colleges. The amount of the grant is determined by financial need, but seldom exceeds $700 a year.

Health Professions Scholarship Grants are available to medical students only. Health Professions Scholarship Grants in amounts up to $2,500 per year are available to medical students of exceptional financial need who require assistance to pursue their course of study. Recipients must be full-time students and citizens or permanent residents of the United States.

Loans

National Direct Students' Loans: For undergraduate and graduate students. These loans may be granted to regularly enrolled students who are U.S. citizens or permanent residents. The amount a student may borrow is determined by his financial need, but may not exceed $2,500 for the first two years and a total of $5,000 for undergraduates. Graduate students may receive a total of $10,000. Repayment may be extended over a ten-year period; interest is 3% on the unpaid balance, beginning nine months after a student ends his education. Students under 18 years of age must have parental approval on the loan section of the application and on a promissory note.

Health Professions Student Loans: For medical students only. The Health Professions Student Loan Program makes loans available to medical students working toward the degree of Doctor of Medicine. Recipients must be full-time students, citizens, or permanent residents of the United States, and in need of the loan to pursue their education. Students may borrow up to $2,500 a year at an interest rate of 3%. Borrowers may repay their loan over a ten-year period beginning one year after completion of study at a school of medicine, except that payments may be deferred for advanced training, including internship and residency.

Regents' Student Loans: For undergraduate, graduate, and medical students. These loans are available to regularly enrolled students. The amount a student may borrow is determined by his financial need; the maximum loan for an academic year is $1,000. Interest is at the rate of 3% a year and accrues from the date the student graduates, withdraws, or is dismissed from the University of California, Irvine. Repayment may be made over a period of not more than five years, beginning six months after the date on which the borrower ceases to carry a full-time course of study at the University of California, Irvine. Co-signatures are required.

Educational Fee Loan: A long-term loan available to California residents who demonstrate financial need. This loan covers the Educational Fee and, in effect, permits payment of the Fee to be deferred until the student ceases to be enrolled. Repayment and 3% annual interest begins nine months after student leaves school.

In addition to these long-term loans, various organizations and philanthropic individuals have provided money to create a short-term student loan fund. These loans, which do not bear interest, are of a short-term nature to cover emergency needs.

Employment

The Federal College Work-Study Program is designed to assist students from low-income families who cannot meet their college expenses. Students who qualify for work-study are provided with employment during the school year and vacation periods. Recipients must be U.S. citizens or permanent residents.

The President's Work-Study Program provides part-time employment for all regularly enrolled students who demonstrate financial need.

Student Employment

The Student Employment Office assists UC students, their spouses, and alumni in obtaining part- or full-time employment during the academic year and summer vacation. Students with Work-Study grants may obtain on-campus or off-campus job referrals in the Student Employment Office. The Office is located in Humanities Trailer Complex, T-902. Job listings are provided to assist each applicant in finding suitable employment. While on-campus employment is limited, off-campus job listings range from general labor to highly technical work. A library of summer work catalogues and brochures, including information on federal and state employment, recreation work, camp jobs, and employment abroad, is also available.

Housing and Food Service

The Central Housing and Food Services Office is located on the first floor of the Library-Administration Building, Room 1407. The Residence Hall Manager is located in offices in Mesa Court. Services include all on-campus housing and food operations and accommodations for conferences and special events.

Food services for commuter students are available in a variety of locations. Gateway Commons, located across from the Library-Administration Building, has both restaurant and cafeteria service. Student Center 1, next to the Science Lecture Hall, includes a snack bar. A mobile snack bar called the Zot Shop serves hot and cold fast food items. Vending machines are located in and around several buildings, including Engineering, Physical Sciences, Crawford Hall, and Student Center 2.

The University maintains on-campus residences for 1200 single undergraduate students in Mesa Court. Each residence accommodates 50 or 60 students and a resident assistant, providing an opportunity for small-group living, self-government, and leadership experience. Each residence is divided into suites of four or five double rooms, with living room and bath; each residence also contains a lounge, recreation room, and library. Rooms are furnished except for bedspreads, blankets, and study lamps. Mesa Commons provides food service for all students in Mesa Court. The residences close during the Christmas and spring recesses.

The University also has 350 one-, two-, and three-bedroom apartments on campus. Most are furnished, and all have carpeting, draperies, stoves, and refrigerators. The apartments are rented to married students, single graduate students, and some faculty and staff.

The office is also eager to help students locate off-campus housing. Room and apartment listings are available to students who call in person at the Housing Office. Since listings change from day to day, arrangements cannot be made by mail. The University is not prepared to inspect accommodations; transactions must be made individually and directly with landlords. A clear understanding of occupancy terms and conditions, preferably in writing, is recommended.

Student Activities

The Student Activities Office is concerned with facilitating learning and personal growth for all students. The professional staff serves as a resource to provide a broad spectrum of learning experiences.

The Activities Office is dependent upon student involvement in all aspects of planning and implementation of programs and services.

Student Organizations

There are presently over 80 registered student organizations at UCI covering a broad spectrum of political, social, academic, recreational, and religious interests. The Student Activities Office works to facilitate and assist with the myriad of programs and projects undertaken by these groups. Leadership seminars and quarterly meetings are conducted for the benefit of organization representatives.

ASUCI

The Student Activities Office also works closely with the programming committees of the Associated Students of UCI in the planning and implementation of student-sponsored special programs and fund-raising projects.

Child Care Center

The Child Care Center, located in the Barn on the Social Science Farm, provides day care for the children of UCI students, faculty, and staff. Children between the ages of two and five are eligible for the program.

Verano Place Pre-school

The Verano Place Pre-school is located in the Recreation Center in Verano Place and serves the children of residents of Verano Place. The Pre-school offers a half-day educational program both morning and afternoon.

Campus Union Program and Facilities

The student Campus Union Board has responsibility for the operation of the facilities, services, and programs of Irvine's "Union without walls." The Temporary Union Building (TUB), near Humanities Hall, has a lounge, T.V., billiards and snooker, cards, and a variety of games; it houses a small Student Store which sells school supplies, posters, art goods on consignment, some texts, and lab kits at a low cost to students.

Cooperative Outdoor Program

The Cooperative Outdoor Program is designed to bring the excitement of the outdoors to interested students, faculty, staff, and friends of UCI. Trips of all sorts are sponsored – day hikes and outings, backpack trips, bicycling excursions, skiing outings, and sailing ventures. Participants have an opportunity to enjoy the outdoors in the company of other people who have similar interests.

Student Information Center

Located on the first floor of the Gateway Commons Building, the center provides the student with information and referrals for any and all questions dealing with life at the University. A master calendar of events, a message board, and information on student organizations are a few of the specific

services provided. A 24-hour phone line (833-5545) provides news on what's happening on campus each day.

Student Travel Bureau

The services of the Student Travel Bureau have been expanded in recent months to meet the growing interest expressed by students, faculty, and staff of UCI for foreign travel information. Some of the services offered by the Student Travel Bureau include: charter flight information and applications; international student I.D. card applications; youth hostel card applications; and general information pertaining to passports, visas, Eurailpasses, vaccinations, etc.

Verano Place

The Student Activities staff works with the Verano Advisory Board and other residents of Verano Place to develop supplementary programs appropriate to the needs of married and graduate students and their children.

Commuter Student Programs

The Student Commuter Committee is concerned with developing ideas and instituting programs to deal with problems and needs of the 80% of the UCI student body which does not live on campus.

Miscellaneous

The Student Activities Office also offers a variety of other services and programs for students and the general academic community. Some of these include: Ditto Service; Finals Center; Leadership Seminars; Quarterly Calendars; Spring Carnival; Student Directory; Student Handbook; Student Interest Cards; Summer Session Activities Program.

In the large and complex structure of our University, it's not possible to perceive all that's happening around you, to discern all the choices. That's what the Student Activities staff is all about. These people can help you find the choices – whatever your interest, problem, or concern. Use them! They can be found in Gateway Commons (833-7901).

Central Campus Calendar

All campus and non-campus organizations should contact this office for assistance in scheduling all events that take place on campus. In addition to securing facilities for an event, the CCC Office assists with ordering support services (projectors, refreshments, tables, chairs). The Calendar Office is in the Library-Administration Building, Room 1433, telephone 833-7494.

ASSOCIATED STUDENTS

The ASUCI is composed of registered students on the campus and supported by student fees of $8 per quarter. This student association is a self-supporting, non-profit organization established for the purpose of meeting student needs by providing desired services and representation of student opinions.

Organization

The executive officers of the ASUCI are elected each year by the student body at large. They are the President, who deals with University-wide affairs,

office management, and programming, an Executive Vice President, who chairs the Student Council, a Vice President for Administration, who coordinates student representation on campus committees and heads up the faculty and course evaluation program, and a Vice President for Student Services, who acts as a liaison with the ASUCI media and coordinates minor publications and special projects.

The four officers also sit on the ASUCI Council, the 24-member policy making board of the Associated Students. Student council persons are elected by the student body, some from their respective schools and some as at-large representatives.

Services

The ASUCI directly supports many student services on the campus. The student owned and operated newspaper, the *New University*, publishes twice weekly. Radio KUCI (90 FM) broadcasts almost continuously during academic quarters. Student-run committees for films, lectures, concerts, and dances round out the co-curricular activities on the campus. And to get students to and from campus activities, an arrangement between UCI and the Orange County Transit District allows students to ride any OCTD bus without charge by presenting a valid registration card during academic quarters.

A ticketron and check-cashing facility on the first floor of Gateway Commons has been specifically constructed for student use. A check cashing service is located in the same facility. Patogh, a coffee house which operates in Student Center I on the weekends, provides live entertainment and inexpensive menu items at no cover charge. Also, through an arrangement with the Universal Buyers' Service in Santa Ana, UCI students are able to purchase many items, from stereo equipment to camera supplies, at a cost close to wholesale.

Representation

On a University-wide level, the ASUCI President sits on the Student Body President's Council, which consists of representatives from all the nine campuses of the University of California and advises the Board of Regents on items of concern to students. Also on that level, various students from the campuses spend time working with the Sacramento legislature as a part of the UC Student Lobby program.

On the Irvine campus, student representation is not limited to the ASUCI Council. Individual students are appointed to serve on all campus administrative and Chancellor's advisory committees, as well as various ad hoc campus and ASUCI committees.

The ASUCI offices are located in the first floor, Gateway Commons, and are open weekdays from 8 a.m. to 5 p.m. The officers and Council members invite your inquiry and participation.

ACADEMIC RELATIONS

Academic Relations is the title given to those academic advising and counseling services which are supervised by the Assistant Vice Chancellor of Academic and Student Affairs. One of the most important aspects of this advising

and counseling operation is its interaction with faculty academic advisors, together with a coordinated system of referrals. Flexibility and diversity in academic advising and counseling enables students to take advantage of a variety of services.

Faculty academic advisors are available in the various schools and academic programs. They provide students with valuable information on course content, major requirements, and University requirements.

An important feature of Academic Relations service is the Peer Academic Advising Program. This program supplements faculty advising which is provided by each school. Peer Advising is conducted by students who are majoring in the school in which they counsel, enabling them to provide added insight and to be especially sensitive to students' needs. This program is designed to enable students to receive informal academic counseling that is relevant and meaningful.

Program Liaison Officers, staff members of E.O.P. – Special Services, are attached to schools for the purpose of meeting the needs of minority and other E.O.P. students. These staff persons work cooperatively with the other segments of advising and counseling services.

Also under the general heading of academic counseling are such services as vocational and personal counseling which are provided by several components of the Student Affairs Division: Career Planning and Placement, Office of the Dean of Students, Student Services, Counseling Center, and the Mental Health component of the Student Health Center. For more complete details about these services, consult the appropriate section of this catalogue.

EDUCATIONAL OPPORTUNITIES
Special Services, Recruiting, and Counseling Programs

The purpose of these programs is to assist economically disadvantaged as well as physically handicapped students in enrolling and succeeding in academic studies. The difficulties these students encounter in seeking a college education may range from inadequate public school preparation to a lack of money to support their education. The EOP-Program is designed to assist students in overcoming these and other problems by providing special admissions consideration, financial aid, academic support through advising, tutoring, and a Communication Skills Center as well as supportive counseling assistance on a continuing personal basis. There is also special financial, academic, counseling, and social assistance for students from different minority or ethnic group backgrounds.

Eligibility

Students with disadvantaged or physically handicapped backgrounds are encouraged to apply. Particularly encouraged to apply are those minority group, low-income, and physically handicapped persons who may not meet admissions requirements but who can offer evidence supporting their ability to achieve at the University level. In those cases where entering the University at this time would not seem appropriate, the Admissions Committee may recommend to the student a program of study in a junior college or elsewhere, hoping that he or she may qualify for acceptance at UCI as soon as possible.

Financial Assistance

Being able to afford to go to college need no longer be the determining factor in deciding whether or not to attend. Students admitted to UCI under the EOP-Program are considered for financial assistance on the basis of need. Funds can be provided to cover room and board, registration fees, books and supplies, and living expenses when a student or his family is unable to meet these expenses. Financial aid is comprised of a combination or "package" of grant, loan, and summer or part-time employment based on the individual need of the student applicant. Individual financial aid and counseling is provided each student through the Financial Aids Office.

Academic Support

To help insure the academic success of EOP students, tutoring and advising are available at the University through the Special Services Office. Students are encouraged to seek counseling, academic advising, and group and individual tutoring in academic subjects. Reading, writing and listening skills, techniques of studying, note-taking, and exam preparation can be improved through taking part in the Communication Skills Center on campus.

Admissions

Prospective EOP students must complete the usual admission forms and procedures. Applications may be obtained from the Admissions Office. In addition to submitting an application for admission and requesting that transcripts of records from all prior schools be sent to UCI, the EOP applicant must (1) write a short autobiographical essay, focusing on his academic potential and academic goals, and (2) have at least three people write recommendations (these may be teachers, counselors, persons in the community, or employers).

Inquiries regarding the EOP-Program should be directed to Office of Admissions, University of California, Irvine; Irvine, California 92664; (714) 833-6704.

EDUCATIONAL PLACEMENT

The Educational Placement Office assists and supports prospective educators in locating and securing desired positions as teachers, faculty members, counselors, or administrators in public and private schools, community colleges, four-year colleges, and universities throughout the United States and abroad.

Full-time, regular students who have completed or expect to complete three quarters of upper-division or graduate work, within the current academic year, and who are currently enrolled in a degree or credential program as matriculated students, are eligible to use the services of the Educational Placement Office. Also, former students who have received a credential or degree from the University of California are eligible.

The Educational Placement Office is prepared to counsel and advise students concerning career objectives and alternatives, desirability of positions, supply and demand of educational positions, and professional problems.

CAREER PLANNING AND PLACEMENT

Students in all majors and at all levels are invited to seek assistance in career planning and job search through the Office of Career Planning and Placement.

A career counselor interviews all applicants to acquaint them with the services offered, preparing a resume, the interviewing process, discussing requirements for specific careers, salaries, etc.

Career counseling courses and seminars are available for students to assist them in exploring a broad range of career choices and arriving at career decisions. Graduating seniors and graduate students are offered the opportunity to interview on campus with representatives from organizations employing college-trained personnel.

Students and alumni seeking immediate employment may register with the Placement Center. Job listings are available for review with the counselor. Applicants are referred directly to employers who have current career opportunities. Students may be referred to organizations which indicate a continuing interest in prospective applicants, i.e., federal, state, and local government agencies.

A library of vocational information is available describing career opportunities in business, industry, government, and social organizations. The *College Placement Annual* is available to all graduating seniors and graduate students, providing information such as company location, size, and occupations. Students are encouraged to obtain this literature and, if they wish, discuss it with the career counselor.

Catalogues, brochures, and materials covering requirements and admission to professional and graduate schools are available. The Career Planning and Placement Office is located in Room 644 of the Engineering Building (833-7230).

STUDENT HEALTH SERVICES

All registered students are eligible for student health service benefits. Among the services available to all regularly enrolled students on the UCI campus is a Health Service, under the direction of a Physician Director. The Student Health Service facilities include an outpatient clinic and dispensary, staffed by physicians and nurses, and supported by x-ray and clinical laboratory. General medical clinics are held 8 a.m. to 4 p.m. every day during the week. Specialty clinics are held at various regular intervals, by appointment. An inpatient infirmary provides care for students who need bed care.

In addition to the campus facility, there is a basic insurance program which provides for most emergency care, surgery, and three days of hospitalization when such care is required but not available at the Student Health Service. Each enrolled student at UCI will automatically have this basic Health and Accident Insurance plan in force. The benefits of this plan, however, are inadequate for serious or catastrophic illness and accident and all students are urged to avail themselves of the optional major medical insurance plan available. The premium is $3 per quarter.

Professional counseling and help for emotional problems is available through the Mental Health Division of the Student Health Service. Psychiatrists, psychologists, and others provide a full spectrum of mental health services.

The Student Health Service encourages preventive medicine. It supplements but does not supplant the family physician. Full and mutual cooperation between the Student Health Service and the family physician is encouraged.

Optional additional insurance for students during vacation is available at the Student Health Service.

COUNSELING SERVICES

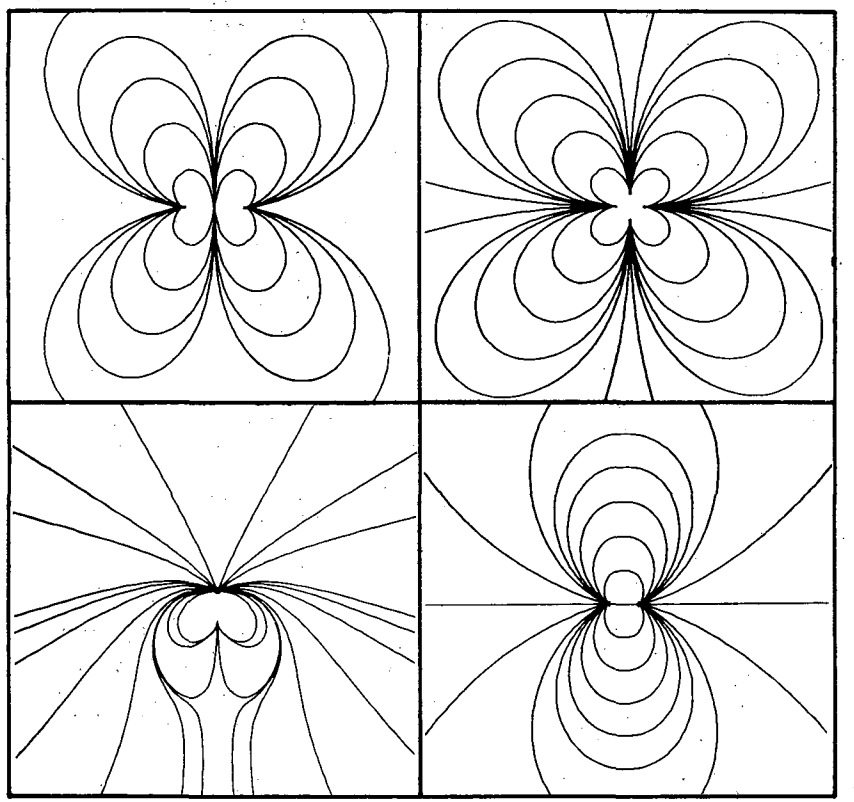
The Counseling Service recognizes that learning and student goals in a university setting are frequently impeded by a variety of problems.

The Counseling Center (544 Engineering Building) serves as a focus for help in solution of such problems.

Professional counselors are available to assist students in making better personal, social, education, and vocational decisions. Such counseling includes various one-to-one and group programs.

STUDENT CONDUCT AND DISCIPLINE

In order to make the administration of campus activities coherent and consistent, the University will provide the student with a handbook setting forth the standards of conduct expected of UCI students. This booklet, *University of California Policies Relating to Students and Student Organizations, Use of University Facilities, and Non-Discrimination,* gives the rules concerning conduct and related matters, as established by the policies of The Regents and President of the University, as well as campus regulations. A student enrolling in the University is expected to assume an obligation to conduct himself in a manner compatible with the University's function as an educational institution. The booklet is a reinforcement of that assumption.



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John Richardson, physics

admissions and policies

UC IRVINE - 1973-1974

WE ARE HERE TO DO

Thoughts frayed,
   may be absorbed,   for
Stock limited/demand high,
We value the constancy of even
                                odd
Change,
   and balk at refund,   to
Our inner reservoir
                    the debt will be
As a mound of   dusty
Air,   we are too weakened to
                                blow
Aside,
We gather, pray,   still
Planet Earth quivers come
                          Monday,
We splurge,
          hedge,
                save--
Still,
         the grounds shake open
                                beneath our
Feet,
These apertures we strew   with
Seed
       for
Nourishment/Glory,   but
These roots,
              like the resident
Ant,
Surrender.

We come,
                             unto
The vaulted vestibule of he
Who garrisons
             the word and the rule,
Robed in lime green we
                      seek
                          admission,
To grow,
        until the first weathery corners
Expel those
               who wish
Wholeness.

Legating our fractional degrees to
The ancient square,   we
                         turn to
The guilt-laden air,
                    the winded prayer,
The terminated investment,
                          the exterminated
Seed,   to patch
Thoughts frayed,   with thread or tool,
To weave a novel text for Tuesday's school.

Without courage we look the same.

Berenice Mbadugha, comparative culture

UC IRVINE - 1973-1974

undergraduate admissions

The University's undergraduate admission requirements, which are the same on all campuses, are based on two principles: The best predictor of success in the University is high scholarship in previous work, and the study of certain subjects in high school gives a student good preparation for University work.

Applying for Admission

To apply for admission to the University as an undergraduate, request an application form from the counseling office of any California high school or community college, or from any University of California Admissions Office. Submit your completed application and related materials to the Admissions Office on the campus where you wish to enroll *on or after* the appropriate date below:

Winter quarter 1974	July 1, 1973
Spring quarter 1974	October 1, 1973
Fall quarter 1974	November 1, 1973
Winter quarter 1975	July 1, 1974
Spring quarter 1975	October 1, 1974

All campuses observe these dates for the beginning of application filing and will accept for consideration all applications filed during the first month of the filing period. After the first month the closing deadline will vary from campus to campus. Once enrollment quotas have been filled, additional applications cannot be accepted and will be redirected to another University campus where enrollments are still open.

Through its redirection program, the University has been able in the past to assure that each qualified applicant is offered admission to one of the University campuses.

Application Fee

There is a *nonrefundable* fee of $20 for filing an application for admission. Make your check or money order payable to The Regents of the University of California and attach it to your application form.

Duplicate Applications

Only one application for the University of California is permissible, and it entitles you to attend the campus of your choice if there is space available. Fees submitted with duplicate applications will not be refunded.

Change of Campus

If, after you have applied for admission, your plans change and you prefer to attend a different campus of the University, you should write to the Director of Admissions, 570 University Hall, Berkeley, California 94720. In your letter indicate the new campus you wish to attend, and give your reasons for the

change. Your application will be transferred to that campus if enrollment is open, but you will receive a new admissions priority assignment based on the date on which you made your request for the change.

Transcripts

Every applicant is responsible for requesting that the high school from which he graduated and each college he has attended send official transcripts of his work promptly to the Office of Admissions where his application is filed.

If you are applying for admission as a freshman, ask your high school to submit a preliminary transcript showing your work through the junior year. The transcript also should list the courses you are now taking and those you plan to take. You must also arrange for a final transcript that includes your courses and grades for the senior year and a statement of graduation. If you have completed any college courses before or at the time of graduation, a transcript of your record from the last college attended is required.

If you are applying for admission in advanced standing, have your graduating high school send a transcript of your record immediately to the Office of Admissions, which will also need a transcript from each college you have attended. A preliminary transcript from your present college should list the courses you are now taking and those you plan to take before transfer.

If you attend any other schools or colleges after your application to the University has been filed, your work there is considered to be part of your record and must be reported to the Office of Admissions.

The transcripts and other documents that you submit as part of your application become the property of the University; they cannot be returned to you or forwarded in any form to another college or university.

Notification of Admission

Candidates for the fall quarter will be notified whether their application has been retained for consideration by their first choice campus, or redirected, by February 15. Most candidates will receive notice of their admissibility by April 15. (There are similar notification periods for other quarters.) Delays will occur if required records have not been received by the Office of Admissions. Since each application is considered individually, the length of time before notification is subject to some variation depending upon the unique circumstances of each applicant.

If offered admission by the University, you will be asked to sign and return a Statement of Intention to Register, accompanied by a nonrefundable fee of $50. This amount will be applied toward payment of your University fees, provided you register in the quarter to which you have been admitted.

Admission to the University is not an assurance of financial aid nor does it guarantee assignment to University housing. Separate applications are required of applicants desiring financial aid or University housing.

Re-Application

An application for admission is effective only for the quarter for which it is submitted. If you are not eligible for admission, or if you are admitted and do not register, you must file a new application and the required fee if you wish

to be admitted to another quarter. The new application will be considered in light of the admission requirements in effect and the space available on the campus.

ADMISSION TO FRESHMAN STANDING

The University defines a "freshman applicant" as a student who has graduated from high school and has not enrolled in a regular session of any collegiate-level institution. Summer sessions are excluded in the determination.

Advanced standing credit will be granted for an acceptable college course taken while still in high school if completed after the tenth grade and if reported on a valid transcript issued by the college or junior college which conducted the course.

Requirements for Non-California Residents

The freshman applicant who does not claim California residency must: (1) graduate from a regionally accredited high school; (2) complete satisfactorily the "a to f" sequence of subject requirements listed below under requirements for California residents; (3) earn a grade point average of at least 3.4 (B-plus) on the courses used to meet the subject requirements; (4) submit five test scores from the College Entrance Examination Board: Scholastic Aptitude Test – Verbal and Mathematics, and three Achievement Tests: English Composition; Social Science or Foreign Language; Science or Mathematics.

Requirements for California Residents

To be eligible for admission to the University as a freshman you must meet the Subject Requirement, the Scholarship Requirement, and the Examination Requirement, which are described below.

Subject ("a through f") Requirement

You must complete certain high school subjects with at least a grade of C in each semester of each course. If you are a graduate of a California high school, these courses must appear on a list that your high school principal has certified meet the course descriptions below and that he has placed on file with the Director of Admissions. If you are a graduate of an out-of-state high school, the Office of Admissions will determine if your courses are equivalent.

a. History, 1 year: One year of United States history, or one-half year of United States history and one-half year of civics or American government.

b. English, 3 years: Composition, literature, oral expression.

c. Mathematics, 2 years: Elementary algebra, geometry, intermediate and advanced algebra, trigonometry, calculus, elementary function, matrix algebra, probability, statistics, or courses combining these subjects. Non-academic courses such as arithmetic and business mathematics may not be used.

d. Laboratory Science, 1 year: One laboratory science, taken in the tenth, eleventh, or twelfth grade.

e. Foreign Language, 2 years: Any one foreign language with a written literature may be used.

f. Advanced Course, 1 or 2 years, satisfied by one of the following:

Mathematics: A total of one year of advanced mathematics – intermediate algebra, trigonometry, or other comparable mathematics courses.

Foreign Language: Either an additional year in the same language used for "e" above or two years of a second foreign language.

Science: A year course in any laboratory science completed subsequent to the laboratory science used for "d" above.

Elective Courses: The subjects listed above will account for ten to eleven of the fifteen high school credits required for admission to the University. A year course in high school is equivalent to one credit. The remaining credits provide an excellent opportunity for you to broaden your preparation for University work by taking elective courses in areas other than those in which you have concentrated.

Scholarship Requirement

Not only must you earn at least a C in each of the courses required for admission, you must also earn an overall average of B in those on the list which you take after the ninth grade.

In determining the required B average, the University will use a semester grade of A in one course to balance a semester grade of C in another. Grades you received in courses taken in the ninth grade or earlier are not used in determining your scholarship average. The grades that appear on your official high school transcript, including those earned in accelerated and advanced courses, are the grades the University will use in evaluating your record. Grades are counted on a semester basis unless a school gives only year grades.

You may repeat up to a total of two semester courses in which you received a grade of D or lower in order to meet the subject and scholarship requirements. The grades you earn in repeated courses, however, will not be counted higher than C in determining your scholarship average. If the courses you repeat were taken before the ninth grade, they will be treated as if you were taking them for the first time.

Examination Requirement

All freshman applicants must submit scores from the College Entrance Examination Board tests listed below. If you are applying for admission to the fall quarter, you should take the tests no later than January of your senior year. The following tests are required:

1. Scholastic Aptitude Test (the verbal and mathematics scores you submit from this test must be from the same sitting).
2. Three Achievement Tests, which must include (a) English Composition, (b) one from among the social studies or one from among the foreign languages, and (c) one from mathematics or one from among the sciences.

If you are a California resident and your scholarship average in the required high school subjects is from 3.0 to 3.09 inclusive, you must earn a total score of 2,500 or higher in these five tests. If your scholarship average is 3.10 or above, these test scores will not be used to determine your eligibility. However, scores must be submitted by all applicants to assist in counseling,

guidance, and placement, and when possible, to satisfy the Subject A requirement.

Admission by Examination Alone

If you do not meet the scholarship and subject requirements for admission, you may be able to qualify for admission as a freshman by examination alone. To do so, you must take the same CEEB tests discussed previously but must earn higher scores. The required total score on the Scholastic Aptitude Test is 1,100. You must earn at least 500 on each Achievement Test with a total Achievement Test score of at least 1,650, or at least 1,725 if a non-resident of California.

Examination Arrangements

Make arrangements to take the required tests with the Educational Testing Service, P.O. Box 1025, Berkeley, California 94701, or P.O. Box 592, Princeton, New Jersey 08540. (Test fees should be paid to the Educational Testing Service, not the University.) Your test scores will be regarded as official only if they are reported directly to the Admissions Office by the Educational Testing Service. Also, your final notification of admission cannot be released until your scores from the CEEB tests have been received by the Admissions Office. The test dates are:

October 13, 1973	SAT (California and Texas only)
November 3, 1973	SAT only
December 1, 1973	SAT and ACH
January 12, 1974	ACH only
February 2, 1974	SAT only
April 6, 1974	SAT only
May 4, 1974	ACH only
June 22, 1974	SAT only

Subject A Requirement

The University requires every undergraduate student to demonstrate an appropriate level of ability in English composition. This requirement is known as Subject A and may be satisfied by:

1. Achieving a grade of 5, 4, or 3 in the Advanced Placement Examination in English given by the College Entrance Examination Board (CEEB), or by
2. Achieving a score of 550 or higher in the CEEB Achievement Test in English Composition, or by
3. Completing an acceptable college-level course of four quarter units or three semester units in English composition with a grade of C or better.

If you have not attempted to establish your Subject A standing in one of these ways, you should report to the campus office of Subject A at the time of registration to take a CEEB placement test.

If you do not meet the requirement in one of the above ways, you must do so during your first year of residency in the University. See page 31.

ADMISSION IN ADVANCED STANDING

The University defines an "advanced standing applicant" as a high school graduate who has been a registered student in another college or university or

in college-level extension classes other than a summer session immediately following high school graduation. An advanced standing applicant may not disregard his college record and apply for admission as a freshman.

If you are a nonresident applicant, you must meet the requirements listed below in addition to those described at the end of this section.

Advanced Standing Admission Requirements

The requirements for admission in advanced standing vary according to your high school record. If you have completed less than twelve quarter or semester units of transferable college credit since high school graduation, you must also satisfy the examination requirement for freshman applicants.

The transcript you submit from the last college you attended must show, as a minimum, that you were in good standing and that you had earned a grade-point average* of 2.0 or better. If your grade-point average fell below 2.0 at any one college you attended, you may have to meet additional requirements in order to qualify for admission.

As an advanced standing applicant you must also meet one of the following conditions:

1. If you were eligible for admission to the University as a freshman, you may be admitted in advanced standing any time after you have established an overall grade-point average of 2.0 or better in another college or university.

2. If you were not eligible for admission as a freshman only because you had not studied one or more of the required high school subjects, you may be admitted after you have:

   a. Established an overall grade-point average of 2.0 or better in another college or university,

   b. Completed, with a grade of C or better, appropriate college courses in the high school subjects that you lacked, and

   c. Completed twelve or more quarter or semester units of transferable college credit since high school graduation or have successfully passed the CEEB tests required of freshman applicants.

3. If you were ineligible for admission to the University as a freshman because of low scholarship or a combination of low scholarship and a lack of required subjects (see p. 57), you may be admitted after you have earned a grade-point average of 2.0 or better in at least 84 quarter units (56 semester units) of college credit in courses accepted by the University for transfer.

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*Your grade-point average is determined by dividing the total number of acceptable units you have attempted into the number of grade points you earned on those units. You may repeat courses that you completed with a grade lower than C up to a maximum of 16 quarter units without penalty.

The scholarship standard is expressed by a system of grade points and grade-point averages earned in courses accepted by the University for advanced standing credit. Grade points are assigned as follows: for each unit of A, 4 points; B, 3 points; C, 2 points; D, 1 point; I and F, no points.

Nonresident Advanced Standing Applicant

In addition to meeting the regular requirements for admission in advanced standing, a nonresident of California must also have a grade-point average of 2.8 or higher in the college courses he has taken that are accepted by the University for transfer credit.

A nonresident applicant who graduated from high school with less than a 3.4 average in the subjects required for admission must have completed at least 84 quarter units (56 semester units) of transferable college work with a grade point average of 2.8 or higher. Upon successful completion of that work two units of the required high school subjects may be waived.

PREPARING FOR THE UNIVERSITY

Certain specific high school subjects are required for admission to the University, whether you are applying as a freshman or in advanced standing. In addition, other preparatory subjects are strongly recommended for many University programs in order to give students the needed background in their chosen fields of study. The lack of a recommended high school subject may delay a student's graduation from the University.

You will find details about these recommendations in *Prerequisites and Recommended Subjects,* a University publication sent each year to high school and college counselors.

Advanced Placement

The Advanced Placement Examinations of the College Entrance Examination Board are taken, usually during the senior year, in conjunction with courses taken in high school. You will receive ten quarter units of University credit for each examination (except Latin examinations which earn five quarter units each) in which you earn a score of 5, 4, or 3. These credits will apply toward the total required for graduation from the University. Information about specific application of Advanced Placement toward subject credit may be obtained from the Office of Relations with Schools.

Credit from Another College

The University gives unit credit to transfer students for courses they have completed in other accredited colleges or universities. To be accepted for credit, the courses must be consistent with those offered by the University.

If an applicant has taken extension courses at another college or university, the Office of Admissions will determine if the courses are acceptable for University credit. The application of credit earned in extension courses toward the requirements for a University degree will be determined by the faculty of the school or college in which the applicant plans to enroll.

ADMISSION TO LIMITED STATUS

Limited students are those with a Bachelor's degree who are admitted to the University for the purpose of completing a specified program of courses required for admission to graduate status. See Graduate Division, p. 85.

ADMISSION OF FOREIGN STUDENTS

The credentials of an applicant for admission from another country in either undergraduate or graduate status are evaluated in accordance with the general regulations governing admission. The completed application, official certificates, Confidential Financial Statement, and detailed transcripts of record should be submitted to the Office of Admissions several months in advance of the opening of the quarter in which the applicant hopes to gain admittance. Please write the Foreign Student Evaluator, Office of Admissions, for complete details.

PLANNING FOR TRANSFER TO UCI

The University is committed to serve as fully as possible the educational needs of students who transfer from other California collegiate institutions. The principles covering transferability of unit credit and course credit are explained below and, unless otherwise indicated, are much the same whether transfer is from a two-year or a four-year institution. Information regarding eligibility for transfer may be found above in the section on Admission in Advanced Standing.

Unit Credit for Work Taken Elsewhere

The University of California grants unit credit for courses completed in other accredited colleges and universities when such courses are consistent with the functions of the University as set forth in the Master Plan for Higher Education in California. Equivalent advanced standing credit from institutions on the semester calendar may be determined at a ratio of one semester unit to one-and-one-half quarter units. (180 quarter units, equivalent to 45 UCI quarter courses, are needed to graduate from UCI.)

California Community (Junior) Colleges

Students often find it advantageous to complete the first two years of a University of California undergraduate program at one of the California Community Colleges, which are an integral part of the state's system of higher education. If a high school graduate cannot be accommodated on his campus of first choice, he may choose to attend a community college and transfer to his preferred University campus at a later time. A student may earn any or all of the first 105 quarter units (70 semester units) toward a University degree in a community college. No further unit credit may be transferred from a community college, although subject credit for courses taken will still be granted.

Students anticipating transfer to UCI are urged to consult with their community college counselors as to the acceptability of course work in the University. In addition, they should familiarize themselves with the course numbering scheme of the community college catalogue, since the course numbers usually reflect the transferability of courses. Students transferring from a community college in continuation of regular attendance, and making normal progress toward a degree, may elect to meet as graduation requirements either those in effect at the time of entering the community college or those in effect at the time of graduation or transfer.

Four-Year Institutions

Unit credit is granted for courses consistent with the University of California's functions and which have been completed in colleges or universities accredited by the appropriate agencies.

University of California Extension

Course numbers prefixed by XB, XD, XI, XL, XR, XSB, and XSC are granted credit toward the Bachelor's Degree on the same basis as courses taken in residence at any accredited collegiate institution. Decisions regarding the acceptability of extension courses taken in institutions other than the University of California rest with the Office of Admissions. Decisions regarding the applicability of such courses toward specific degrees and majors rest with the respective faculties.

College Level Examination Program (CLEP)

Ten quarter units are granted for each *area* examination in Social Science/History, Natural Science, and Humanities, passed with a score of 500 or better.

The amount of credit granted for each *subject* examination passed with a score of 50 or better will be based on the scope of the material covered and transferability as determined by the Admissions Office.

Course Credit for Work Taken Elsewhere

The policies above refer only to the unit transferability of courses and are uniformly implemented on all campuses of the University. Thus, courses which are determined by the University of California to be transferable are assured only of being granted elective course credit. The application of transfer work to specific course and major requirements is determined on each campus.

The Irvine campus makes every effort to eliminate all barriers to orderly progress from California community colleges into its own programs. To this end, many community colleges have entered into articulation agreements with UCI so that the specific application of their courses to UCI's University, school, and departmental major requirements may be readily communicated to prospective transfer students. Consult your community college counselor. You may also contact the Office of Relations with Schools for specific information on planning a program for transfer.

The University of California bulletin *Prerequisites and Recommended Subjects* should also be consulted for planning the lower-division course of study for all programs offered on the campuses of the University of California.

Course Requirements

Course requirements at UCI are in four categories: University of California, UCI, school, and departmental. Courses not specifically applicable to these are considered to be electives. See page 31 for a complete description of these requirements.

University of California Requirements

Subject A. Among the means of meeting this requirement is the completion of an acceptable four-quarter-unit or three-semester-unit transfer course in English composition with a grade of C or better.

The American History and Institutions Requirement. This requirement may be met by completing in high school one year of U.S. History or one semester of U.S. History and one semester of U.S. Government with a grade of at least C, or upon certification by another California collegiate institution.

UCI Requirements

6-3-3 Breadth Requirement. The 6-3-3 requirement may be satisfied by any courses appropriate to the UCI schools and may be met at any time during the undergraduate years. Transfer students should not feel that these must necessarily be completed in the lower division.

Students who transfer from a four-year institution and who have completed the general breadth requirements of that college will be considered to have met the total 6-3-3 breadth requirement of UCI. Students who transfer from a junior college and who have met the general breadth requirements of any campus of the University of California prior to transfer will also be regarded as having met the 6-3-3 breadth requirement. Students from colleges on the semester calendar may fulfill the 6-3-3 requirement by clusters of four courses and two courses, respectively (4-2-2). Students who, upon transfer, have not completed whatever breadth requirements may have been in progress for another campus of the University of California, may elect to complete at UCI either that program or the 6-3-3 UCI breadth distribution.

Virtually all courses in the Schools of Biological Sciences, Fine Arts, Humanities, Physical Sciences, and Social Sciences at UCI are applicable to the 6-3-3 breadth requirement. The courses and descriptions listed elsewhere in this catalogue may be used by prospective transfer students as a guide for selecting courses of similar content and purpose in their own institutions. However, it is strongly advised that they consult with their counselors to verify the transferability of such courses and their applicability to the 6-3-3 breadth requirement. No student who has taken a course which is accepted for credit by the Director of Admissions and University Registrar and which has been determined by a junior college as acceptable toward completion of the 6-3-3 distribution shall incur any loss of credit in satisfaction of the requirement.

School Requirements

Since school requirements (see p. 32) occasionally cross school lines (e.g., physical science requirements for all majors in the School of Biological Sciences), courses taken to fulfill a school requirement may at the same time be applicable toward the University breadth requirement. Also, courses taken to fulfill a departmental major requirement may, at the same time, fulfill a school requirement or the University breadth requirement (see p. 32).

Although course equivalencies for the 6-3-3 breadth requirement are liberally interpreted for purposes of transfer, courses to be applied toward school and departmental major requirements must be more precisely equated with UCI courses in unit value and in content. Generally speaking, it is advisable for students to satisfy as fully as possible the requirements of their intended UCI school prior to transfer.

Departmental Major Requirements

Courses to be applied toward departmental major requirements must be more precisely equated with UCI courses in content and purpose than is the case with courses applicable to the 6-3-3 breadth requirement (see p. 32 and de-

partmental sections). Prospective transfer students should consult with their counselors as to the applicability of courses toward UCI departmental requirements.

Prospective transfer students should address specific inquiries about their program to the respective schools or departments at UCI. Community colleges wishing to clarify the status of transfer courses should consult with the Office of Relations with Schools at Irvine or at the University campus closest to them.

ADDITIONAL POLICIES RELATING TO ADMISSIONS

Nonresident Tuition Fee

Students who have not been legal residents of California for more than one year immediately prior to the residence determination date for each quarter in which they propose to attend the University are charged, along with other fees, a tuition fee of $500 for the quarter. The residence determination date is the earliest opening day of the term on any of the University of California campuses.

Legal residence is established by an adult who is physically present in the state while, at the same time, intending to make California his permanent home. The prior legal residence must be relinquished, and steps must be taken at least one year prior to the quarter to evidence the intent to make California the permanent home. Some of the relevant indicia of an intention of California residence are: voting in elections in California and not in any other state; satisfying resident California state income tax obligations on total income; establishing an abode 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 or home of record in California if one is in the military service, etc. Conduct inconsistent with the claim of California residence would include, but not necessarily be limited to, the following: maintaining voter registration and voting in person or by absentee ballot in another state, if the basis of the franchise is legal residence; obtaining a divorce in another state; attending an out-of-state institution as a resident of the state in which the institution is located; obtaining a loan requiring legal residence in another state.

The student who is within the state for educational purposes only does not gain the status of resident regardless of the length of his stay in California. In general, the unmarried minor (a person under 18 years of age) derives legal residence from his father (or from his mother if the father is deceased), or, in the case of permanent separation of the parents, from the parent with whom the minor maintains his place of abode. A man or a woman may establish his or her residence.

A student who is a minor and remains in this state after his parent, who was a resident of California but has established residence elsewhere, shall be entitled to retain residence classification until one year after the student turns eighteen, thus enabling the student to establish residency, so long as continuous attendance is maintained at the University.

Nonresident students who are minors or 18 years of age and can evidence that they have been totally self-supporting through employment and actually present in California for the entire year immediately prior to the opening day of the quarter and have evidenced the intent to make the state their permanent home may be eligible for resident status.

Exemption from payment of the nonresident tuition fee is available to the natural or adopted child, stepchild or spouse who is a dependent of a member of the armed forces of the United States stationed in California on active duty; such residence classification may be maintained until the student has resided in the state the minimum time necessary to become a resident, so long as continuous attendance is maintained at the University. If the member of the armed forces is transferred on military orders to a place outside of the United States immediately after having been stationed on active duty in California, the student who is the natural or adopted child, stepchild or spouse dependent on the member of the military, is entitled to residence classification under conditions set forth above.

A student who is a member of the armed forces of the United States stationed in California on active duty, except a member of the armed forces assigned for educational purposes to a state-supported institution of higher education, shall be entitled to residence classification until he has resided in the state the minimum time necessary to become a resident.

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 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.

Children of deceased public law enforcement or fire suppression employees, who were California residents, and who were killed in the course of law enforcement or fire suppression duties, may be entitled to residence classification.

A student in continuous full-time attendance at the University who had resident classification on March 7, 1973, shall not lose such classification as a result of the adoption of the uniform student residency law on which this catalog statement is based, until the attainment of the degree for which he or she is currently enrolled.

New and returning students are required to complete a Statement of Legal Residence, a form that is issued at the time of registration. Their status is determined by the Attorney in Residence Matters' Deputy who is located in the Registrar's Office.

The student is cautioned that this summation regarding residency determination is by no means a complete explanation of the law. The student should

also note that changes may have been made in the rate of nonresident tuition and in the residence requirements between the time this catalog statement is published and the relevant residence determination date. As this catalog statement is written, regulations are in the process of adoption and will serve to implement the uniform residency determination law enacted in Statutes 1972, Chapter 1100 (AB 666) as adopted by the Regents. A copy of the Regents' regulations is available for inspection upon request being made to the Attorney in Residence Matters' Deputy in the Registrar's Office.

Those classified incorrectly as residents are subject to reclassification as nonresidents and payment of all nonresident fees. If incorrect classification results from false or concealed facts, the student is subject to University discipline and is required to pay all back fees he would have been charged as a nonresident. Resident students who become nonresidents must immediately notify the Attorney in Residence Matters' Deputy.

Inquiries from prospective students regarding residence requirements for tuition purposes should be directed to the Attorney in Residence Matters, 590 University Hall, 2200 University Avenue, Berkeley, California 94720. No other University personnel are authorized to supply information relative to residence requirements for tuition purposes. Any student, following a final decision on residence classification by the Attorney in Residence Matters' Deputy on the campus attended by the student, may make written appeal to the Attorney in Residence Matters at the above address within 120 calendar days of notification of the final decision by said Residence Deputy.

Medical and Physical Examinations

All new students are required to have a completed medical examination performed by their own physician within 90 days of enrollment. In addition, each student must present a certificate verifying successful vaccination against smallpox within three years prior to registration and a report of a tuberculosis skin test and recent tetanus immunization. In a few specialized curricula, students may be required to have additional examination and supplemental immunization which will be performed by the Student Health Service.

Students returning to the University after an absence of two or more quarters are required to have a health clearance by the Student Health Service before their enrollment is completed. Students absent from the campus as participants in the University's Education Abroad Program must comply with this requirement upon their return to the campus.

registration procedures

Except where noted, all information applies to both undergraduate and graduate students. Additional information concerning registration and academic policies applying only to graduate students is given under the Graduate Division section.

REGISTRATION AND ENROLLMENT

A student must complete the following procedure to officially enroll in classes and receive academic credit:

Consult academic advisor and secure approval for enrollment in classes if required; file completed class enrollment and information cards with the Registrar's Office; pay fees at the Cashier's Office (including all outstanding debts).

The Schedule of Courses is provided by the Registrar's Office with registration materials approximately six weeks before the beginning of each quarter. A quarterly calendar of registration and enrollment deadlines and the latest registration information are included in each issue.

Class Verification and Identification Card

After payment of fees and enrollment in classes each student receives a Class Verification and Identification Card which is evidence that he is a registered student at UCI and which entitles him to library privileges, student health card, and other University privileges. In addition, the card provides identification for Associated Student functions. If the validated card is lost, a duplicate may be obtained from the Registrar's Office upon application and payment of $3 to the Cashier's Office.

Late Registration and Enrollment

Students who do not register (pay fees) and enroll in classes within the deadline limits, including those who are allowed to apply late, are required to pay a late registration fee of $10 and a late enrollment fee of $25. These fines are assessed to help pay for the additional expense associated with processing late transactions and may not be waived. All fees are due and payable in advance and must be paid in full before official enrollment in classes will be completed. Students are therefore urged to register (pay fees) and enroll within the published deadline dates. Students with financial need should make advance arrangements with the Financial Aids Office to have funds available when their fees are due. All fees must be paid in advance. The Registrar does not have authority to allow a student to pay fees after the deadline dates, or waive the late fees, except in unusual cases where the University is responsible for the late transaction. A student who is allowed to apply late and, as a result, must register and enroll late, is required to pay late fees.

Change of Class Enrollment

After an official Preferred Program card has been filed with the Registrar's Office, a student may add or drop courses or change sections of a course by executing a Change in Course Enrollment available from his academic dean's office.

During the *first two weeks* after the beginning of a quarter, the student may enroll in additional courses. To do so, the student must obtain a change of course enrollment card from his dean's office and have it signed by his instructor. The student then returns the card to his dean's office. After the second week, courses may not be added or changed without the approval of the dean of the student's school. This is also the deadline for changing the grade option of a course; that is, a student may not change his enrollment in a course from Pass/Not Pass to a letter grade, or vice versa, after the end of the second week of classes without the approval of his dean.

To drop a course during the first six weeks of the quarter, it is necessary to obtain the instructor's signature and to file the change of course enrollment card with the dean's office. To drop a course after the sixth week, the dean's approval is needed, and will be given only to students not failing the course and not subject to academic disqualification. There is a $3 fee for adding or dropping a course after the second week.

Every student enrolled in a laboratory course in which equipment is issued is responsible for the equipment when dropping a course and will not be permitted to drop until the equipment is accounted for.

Each student is responsible for his official enrollment and must be officially enrolled in each class for which he expects credit, and he must officially drop classes he has ceased attending. The student cannot simply discontinue his attendance in a class; he *must* file a change in course enrollment card, or he will receive an "F" grade in the class. Each student is responsible for clarifying his official enrollment within the deadline dates each quarter. Courses may not be added or dropped retroactively.

BAR FROM REGISTRATION

A student may be barred from registering for classes for the following reasons:

Failure to respond to official notices; failure to settle financial obligation when due or to make satisfactory arrangements with the Business Office; failure to complete the physical examination; or failure to comply with admission conditions.

Each student who becomes subject to a "bar from registration action" is given advance notice and ample time to deal with the situation. However, if the student fails to respond, action will be taken without further notice, and he is entitled to no further services of the University except assistance toward reinstatement. A student who has been "barred from registration" must apply for readmission, satisfy the conditions which caused his "bar from registration" and pay a $10 reinstatement fee at the Cashier's Office.

STUDENT RECORDS

Records are held in strict confidence and released only upon a student's specific written request except that public information such as the following is released: periods of enrollment, degrees awarded. Address information will also be released unless the student requests the information be withheld.

It is extremely important for each student to keep the Registrar's Office currently informed as changes occur to assure that accurate and complete records are maintained for his benefit. To facilitate this updating, a Personal Data Sheet is included in each term's registration packet which allows students to examine and update their personal data. Furthermore, after the drop and add period each quarter, every student is provided with a record of his current term enrollment to insure the accuracy of his official enrollment. Students are urged to officially report to the Registrar's Office all changes in personal data and enrollment data.

Transcript of Records

A fee is charged for each transcript of a student's record. Applications for a transcript of record should be submitted to the Registrar's Office several days in advance of the time needed. Transcripts will be released only upon signed request of the student; an application for a transcript *must* bear the student's signature. The fee for transcripts is $2 for the first copy and $1 for each additional copy ordered at the same time.

SPECIAL PROCEDURES

Readmission: undergraduates only

We strongly urge students to consider the policy below in formulating plans for leaving or returning to UCI. Every effort will be made to readmit UCI students who were in good academic standing at the time of dropping out and who have filed readmission applications.

Readmission is not automatic. A student must file a readmission application at least eight weeks prior to the quarter in which he wants readmission and pay a $20 application fee at the Cashier's Office.

If a student has been academically disqualified from the University or if he has left the University while on probation or subject to disqualification, he must apply for readmission in the manner prescribed above. His application, however, will be forwarded to the dean of the school which he hopes to enter. If the dean decides that the student is serious about his academic life, and/or that the student has displayed capability at another academic institution, the student will most likely be allowed readmission to the University.

Transcripts for work taken at other institutions must be submitted as part of the application. A nonrefundable fee of $20 is charged for each application for readmission. Remittance by bank draft or money order, payable to The Regents of the University of California, must be attached to the application.

Intercampus Transfer: undergraduates only

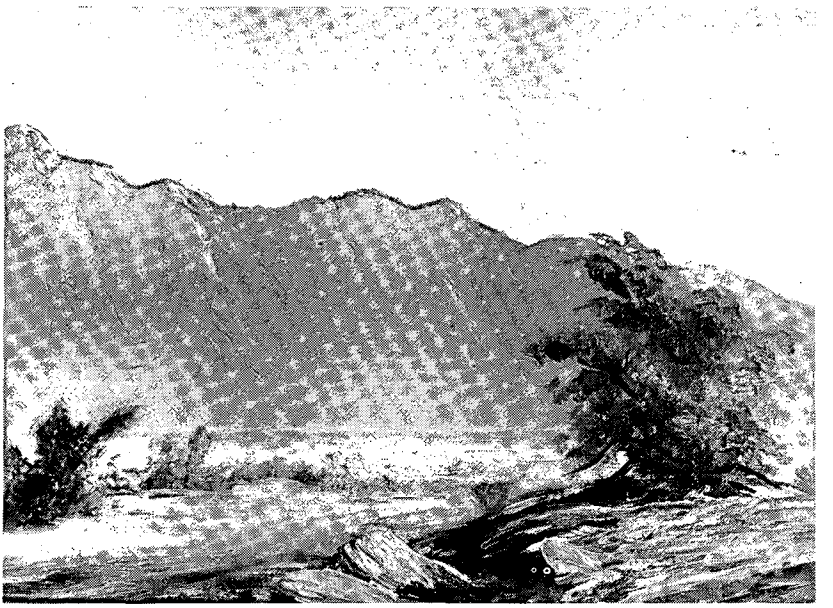
An undergraduate student in good standing can transfer from the UCI campus to other campuses of the University of California. To do so, the student should first check with the Registrar to see which of the campuses are ac-

cepting transfers and which majors are being encouraged by each campus. The student then obtains an Intercampus Transfer Application form from the Registrar's Office and files the form with his home campus registrar by the deadline prescribed for the quarter in which the student wishes to transfer. The deadlines are March 1 for fall quarter, September 1 for the winter quarter, and December 1 for the spring quarter. A student may apply for only one campus in any given quarter. A fee of $20.00 is required for all Intercampus Transfer Applications filed with the Registrar's Office.

Withdrawal from the University

A student withdrawing from the University during the quarter must file notice of withdrawal and turn in his identification card to the Registrar's Office before leaving the campus. In cases of illness or emergency, notice of withdrawal should be made as soon as the student decides not to continue. (A schedule of reimbursements is found on p. 80 under "Fees and Expenses.") If necessary, a student may mail his notice of withdrawal and his identification card to the Registrar's Office.

A student *must* file a notice of withdrawal. If he fails to do so, the student will receive failing grades in all courses and severely jeopardize his standing at the University. If a student has completed a quarter and does not plan to return the following quarter, a withdrawal form is not necessary.



Larry Orsak, biology

academic policies

GRADING

A – Excellent (4.0 grade points per unit)

B – Good (3.0 grade points per unit)

C – Average (2.0 grade points per unit)

D – Lowest passing grade (1.0 grade point per unit)

F – Not passing (no grade points)

I – Incomplete

P – Pass (equal to grade C or better)

NP – Not Pass

S – Satisfactory (graduate students only in courses so designated by the Graduate Council)

U – Unsatisfactory (graduate students only in courses so designated by the Graduate Council)

IP – In Progress (restricted to certain sequential courses, so designated by the Committee on Courses, for which the final quarter grade of a multi-quarter sequence course is assigned to the previous quarter(s) of the sequence)

NR – No Report (given when student's name was on official roster of class but instructor either had no record of the student's work or turned in no grade for the student. NR turns to F after one quarter on student's record unless instructor at the student's request clears the record or replaces NR with another grade)

Plus suffixes may be attached to the grades B, C, and D; minus suffixes may be attached to the grades A, B, C, and D. Plus grades carry three-tenths grade point more per unit, and minus grades carry three-tenths grade point less per unit than unsuffixed grades.

At the end of each quarter, the student is given a copy of his permanent record. On the copy, the student will find grades for all the quarters he has taken at UCI, a computation of his grade point average at the University of California, and a list of the University requirements he has completed (Subject A, American History and Institutions, etc.).

Regulations require for graduation the accumulation of credit for 45 courses or 180 quarter units with an average grade of at least C (grade point average of at least 2.0). A course at UCI normally offers 4 quarter units of credit, and the term "course" may be understood in what follows to carry 4 units. The grade point average is the sum of all accumulated grade points (grade points

earned in a course per unit *times* the unit value of the course) divided by the sum of all units attempted.

It should be noted that final grades as reported by professors at UCI are permanent and final. A professor may not change a final grade except to correct a clerical error.

Incomplete Grades

"I" or incomplete grades are granted by a professor to a student according to the conditions stated in Regulation 335 of the Regulations of the Academic Senate. Generally the "I" grade may be given when the student's work is of passing quality, but is incomplete because of circumstances beyond the student's control, and when he has been excused *in advance* from completing the quarter's work.

The time limit for making up an "I" grade is two quarters of enrollment. After this time the "I" can no longer be replaced and will appear permanently on the record. The student should consult his instructor to determine how the incomplete may be made up. Once the work is completed, the student should ask his instructor to submit a change of grade form to the office of the dean of the school in which the course was offered. The student should *not* re-enroll in the course to make up the incomplete.

Courses graded "I" are not included in computations of the grade point average which appears on the student's permanent record. They will remain indefinitely on the permanent record unless the work is completed and a grade assigned as described above. Because University of California regulations require a grade point average of 2.0 for all units *attempted* in order to graduate, incomplete grades are treated as "F's" when a check for satisfaction of graduation requirements is made. If the student's overall average is at least a 2.0, including the incomplete grades computed as "F's," then the student may graduate. If the incomplete grades computed as "F's" decrease the student's average below a 2.0, then he may not graduate until he has made up enough incomplete grades to bring his average up to a 2.0. This computation in no way affects the grade point average or the appearance of "I" grades on the final permanent record.

Pass/Not Pass

The Pass/Not Pass option is available at UCI to encourage students to enroll in courses outside their major field. Courses graded "Pass" or "Not Pass" are not included in computation of the grade point average which appears on a student's permanent record. However, if a student receives a "Pass" in a class, he receives course and unit credit for the class. If he receives a "Not Pass," he receives no credit for the class. Below are listed six regulations concerning the use of the Pass/Not Pass option:

1. On the average only one course (or 4 units) per quarter may be taken under the Pass/Not Pass option. The total number of Pass/Not Pass courses on a student's record may not exceed the number of quarters a student has been enrolled at UCI. This restriction applies to all courses, including those designated by the Committee on Courses to be offered only for Pass/Not Pass grades, except for courses in Physical Education.
2. A student who earns a grade of "C" or better will have a Pass/Not Pass grade recorded as "Pass." Units thus earned shall be counted in satisfaction of degree requirements. If the student earns a grade of "D" or "F," his

grade shall be recorded as a "Not Pass," and he will receive no credit for the course. In both cases, the student's grade will not be computed into the grade point average.

3. Courses taken under the Pass/Not Pass option may *not* be used to satisfy specific course requirements of the student's school and major department unless authorized by the dean of that school. However, such courses count toward the 45 courses (180 quarter units) required for graduation and toward meeting the general UCI breadth requirements.
4. Changes to or from the Pass/Not Pass option must be made during the enrollment period. No changes can be made after the first two weeks of a quarter without the approval of the dean of the student's school.
5. No student on academic probation may enroll in a course on the Pass/Not Pass option. (Physical education courses are excepted.)
6. Graduate students may not use Pass/Not Pass courses to apply toward any degree requirements.

Satisfactory/Unsatisfactory Grades (Graduate Students Only)

Individual study and research, or other individual graduate work undertaken by a graduate student, may be evaluated by means of the grades "S" or "U". No credit will be allowed for work graded unsatisfactory.

In Progress Grades

"IP" is a continuing grade which is restricted to sequential courses which extend over two or more quarters, indicating that the final grade for the individual quarters will not be assigned until the last quarter of the sequence is completed. The grade for the final quarter is then assigned for all of the previous quarters of the sequence. No credit is given until the student has completed the entire sequence. "IP" grades may be given only in courses designated by the Academic Senate Committee on Courses for use of this grade. Courses graded "IP" are not included in computations of the student's grade point average and do not contribute to the number of quarter units completed.

Not Reported Grades

An "NR" is recorded on a student's permanent record when the student's name was on the official class roster but the instructor either had no record of the student's work or turned in no grade for the student. If a student receives an "NR," he must immediately contact his instructor and arrange either to have the record for that course removed or for the replacement of the "NR" with another grade. After one quarter on the record an "NR" becomes an "F" which will remain permanently upon the student's record. Courses graded "NR" are not included in computations of the grade point average and do not contribute to the number of quarter units completed.

Removal of Deficient Grades

Undergraduates may repeat courses only when grades of D, F, or NP were received. Degree credit for courses so repeated will be given only once but the grade assigned at each enrollment shall be permanently recorded. In computing the grade point average of an undergraduate with repeated courses, in which he received a D, F, or NP, only the most recently received grades and grade points shall be used for the first 16 units repeated. In case of further

repetitions, the grade point average shall be based on all grades assigned and on total units attempted.

Grade Points and Grade-Point Average

Grade points are assigned on a four point basis: A, 4 points per unit; B, 3 points per unit; C, 2 points per unit; D, 1 point per unit; F and I, zero points. Plus or minus suffixes modify the above by plus or minus 0.3 grade point per unit.

Each undergraduate course counts 1-8 units, and graduate courses range from 1 to 12 units each (see departmental course descriptions). Grade-point average is computed by dividing the total number of grade points earned by the total unit value of courses attempted. P, NP, S, U, NR, IP, and I grades are excluded in computing grade-point average.

CREDIT BY EXAMINATION

An enrolled student may obtain credit for many courses by taking a special examination administered by a faculty member who normally teaches that course. Detailed procedures for obtaining credit by examination may be obtained from the office of the dean of the school which offers the course. Approval in advance of any petition for credit by examination must be obtained from the dean of that school before the examination can be administered. After the dean has signed the petition, the student must have it validated by paying a $5 Credit by Examination Fee at the Cashier's Office.

The instructor giving the examination retains the prerogative (1) to decide whether his course can be taken by examination, (2) to determine the form such an examination may take, and (3) to stipulate whether grades will be reported as Pass/Not Pass or as A, B, C, D, or F.

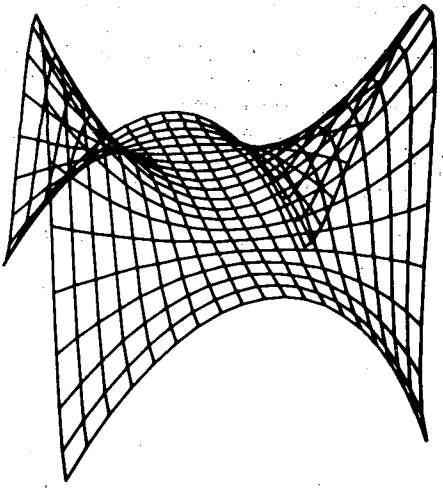
A student may take the examination for a particular course only one time. After receiving the grade, the student may accept it or reject it. If he is not satisfied with the grade he receives on the examination, he may choose not to receive credit or a grade. If the student does choose to accept the results of the examination, grades and grade points will be entered on his record in the same manner as regular courses of instruction.

INDEPENDENT STUDY: UNDERGRADUATES ONLY

Another class option is available *primarily to upper-division students at UCI.* The option, independent study, allows the student to plan with his instructor a course having a clear relationship to the student's academic program. The plan for the course will include a reading list, a group of assignments, examinations, papers, or similar evidence of intellectual achievement on which academic credit will be based. A description of the course and of its requirements must be approved by the instructor responsible for it and by the department chairman or dean. Independent study credit for undergraduates is limited to five units per quarter.

FINAL EXAMINATIONS

Final examinations are obligatory in all undergraduate courses except laboratory courses, or their equivalent, as individually determined by the Committee on Courses. Each such examination shall be conducted in writing,



computer generated pattern
John Richardson, physics

whenever practicable, and must be completed by all participants within the announced time shown in the Schedule of Courses for the quarter in question. These examinations may not exceed three hours duration. In laboratory courses, the department concerned may at its option require a final examination subject to prior announcement in the Schedule of Courses for the term.

Final grade reports from professors are due in the Registrar's Office within 48 hours after the final examination.

UNDERGRADUATE SCHOLARSHIP REQUIREMENTS

Course Load Limits

An undergraduate may enroll in as few as three courses (12 units) or as many as five courses (20 units). To enroll for more than five courses or fewer than three courses a student must obtain the signature of the dean of his school on his Preferred Program Card. Any action to add or drop courses after submission of the Preferred Program Card which will cause a student to be enrolled in more than five courses or fewer than three courses requires approval by the student's dean. This approval is certified by the dean's signature on the Change in Course Enrollment (Add/Drop) Card.

Academic Standing

For a student to remain in good academic standing he must maintain a grade point average of at least 2.0 and make progress toward the degree at a satis-

factory rate. "Normal" progress toward the degree is defined as the average rate, i.e., 15 units per quarter, required to accumulate 180 units in a period of 12 quarters of enrollment. The Irvine Division of the Academic Senate has established as "satisfactory" a rate of progress which allows students to accumulate fewer than 15 units per quarter during the freshman year. This provision recognizes that freshmen sometimes have poorly defined academic goals and may as a consequence suffer academic setbacks which do not accurately reflect their academic potential. Satisfactory progress nevertheless anticipates completion of the degree by full-time students within 12 quarters of enrollment. Thus, students who progress at less than the normal rate in their freshman year must expect to progress at a somewhat faster rate in subsequent years. Students who do not maintain a grade point average of 2.0 or make satisfactory progress toward the degree will be subject to probation or subject to disqualification in accordance with the guidelines below.

Probation

An undergraduate student is normally subject to academic probation if at the end of any quarter his grade point average for that quarter, or his cumulative grade point average, is less than a 2.0. Additionally, if he does not maintain satisfactory progress (at least 36 units by the end of freshman year, 80 by the end of sophomore year, 128 by the end of junior year, and 180 by the end of senior year) he is subject to academic probation. A student will be allowed to continue on probation only if his record indicates that he is likely to achieve the required scholastic standing within a reasonable time.

Subject to Disqualification

A student whose grade point average falls below a 1.5 for any quarter, or who after two consecutive quarters on probation has not achieved a cumulative grade point average of 2.0 or a satisfactory rate of progress, is subject to disqualification. Additionally, a student who earns fewer than 24 units by the end of his freshman year, fewer than 72 by the end of his sophomore year, and fewer than 124 by the end of his junior year is subject to disqualification.

Probation is not a necessary step before disqualification. If a student becomes subject to disqualification, his grades and records will be carefully reviewed by the dean of his school who will consider the student's total performance and decide whether the student shall remain at the University.

In order to transfer from one campus to another in the University of California or from one UCI school to another, a student who has been disqualified or who is on academic probation must obtain the approval of the appropriate faculty, or its designated agent, into whose jurisdiction he seeks to transfer.

CONCURRENT ENROLLMENT

If a UCI student wishes to enroll in a University Extension course concurrently with his enrollment in regular courses, he must have his entire program of study approved in advance by the dean of his school.

Transfer to UCI of credit earned in enrollment at another institution guarantees only credit toward total units. Applicability toward meeting specific degree requirements of any credit transferred is determined by the dean of the student's school.

fees and expenses

Estimated Expenses

The exact cost of attending the University of California, Irvine will vary according to personal tastes and financial resources of the individual. The following is intended only as a guide in computing the average annual expenses for three quarters of attendance at UCI. (For a quarterly breakdown, divide by three.) Fees are due and payable at the beginning of each quarter. All fees are subject to change without notice.

California Residents	Undergrad.	Grad.	Medical
University Registration Fee	$ 300	$ 300	$ 300
Educational Fee	$ 300	$ 360	$ 360
Associated Students Fee	$ 24	$ 24	$ 24
Room and Board in University Residence Halls (Double Occupancy)	$1,360	—	—
Room and Board for Independent Students	—	$1,360	$1,430
Books and Supplies (Approximate)	$ 180	$ 350	$ 650
Personal Expenses (Laundry, Clothing, Recreation)	$ 900	$ 900	$ 500
Average Annual Expenses	$3,064	$3,294	$3,264
Nonresidents			
All above fees apply	$3,064	$3,294	$3,264
Nonresident Tuition	$1,500	$1,500	$1,500
Average Annual Expenses	$4,564	$4,794	$4,764

Fees

Under terms of the Alan Pattee Scholarship Act a surving child of a California resident who died as a result of accident or injury incurred in the performance of active law enforcement or active fire suppression and preventive duties is eligible to apply for waiver of certain fees. Additional information concerning this Act is available from the Registrar's Office.

Registration Fee

The University registration fee is $100 per quarter. The full fee is required of all students regardless of the number of courses taken. This fee, which must be paid at the time of registration, covers certain expenses of students for use of athletic and gymnasium facilities and equipment, for certain laboratory fees, and for such consultation, medical advice and hospital care, or dispensary treatment as can be provided by the Student Health Service. No part of this fee is remitted to students who may not desire to make use of all or any of these privileges. The $50 advance deposit on the registration fee (Undergraduate Acceptance of Admission Fee), required of new undergraduates, is applied to the full fee when the student registers. Continuing stu-

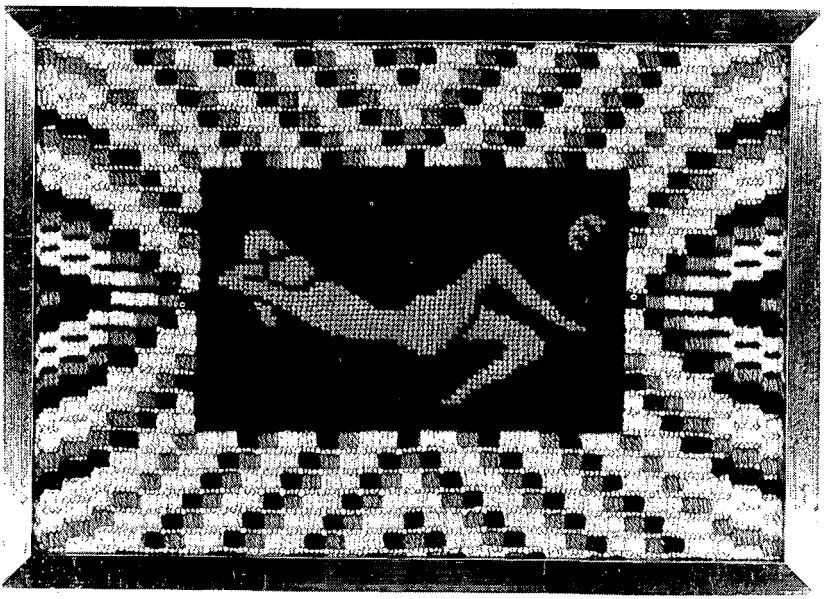
dents are required to pay all outstanding fines and other debts, in full, at the time they pay their registration fee for an upcoming term.

Educational Fee

The Educational Fee is $100 per quarter for undergraduate students and $120 per quarter for graduate students in 1973-74. Legal residents of the State of California with demonstrated financial need may defer payment of the Educational Fee by accepting obligation to repay, at a later date, the sum deferred. Students interested in this provision should contact the Financial Aids Office, Room 1441, Library-Administration Building.

Associated Students Membership Fee

The Associated Students membership fee of $8 per quarter is administered by the Associated Students of the University of California, Irvine to provide social activities, lectures, forums, concerts, and other activities at either a reduced charge, or no charge, to UCI students. This fee is required of all students.



"This is Claudia"
Marna Balin, biology

Tuition Fee

Students who are not legal residents of the State of California are required to pay a $500 quarterly tuition fee irrespective of the number of courses taken. (See Rules Governing Residence, p. 65.)

Miscellaneous Expenses, Fees, Fines, and Penalties

Undergraduate Acceptance of Admission Fee (new undergraduates)	$50
Application Fee	20

The above fees are nonrefundable in all cases.

Changes in Course Enrollment after announced dates	3
Credit by Examination	5
Duplicate Identification Card and/or other cards from enrollment packet	3
Duplicate Student Card	3
Duplicate Diploma (to replace destroyed diploma)	20
Special Course – Subject A	45
Advancement to Candidacy for Ph.D.	25
Master's Thesis and Doctoral Dissertation Filing Fee	50
Transcript of Record	2
Late Payment of Fees	10
Late Enrollment in Classes	25
Returned Check Collection	5
Parking Fee (Quarterly)	9

Fee Refunds

New undergraduates who cancel their registration before the first day of instruction are entitled to a refund of registration fee, educational fee, and tuition fees; the $50 Acceptance of Admission fee is nonrefundable. Students who have accepted admission to the College of Medicine should refer to page 346 for special provisions on acceptance fee refunds.

For all continuing and readmitted undergraduate, graduate, and medical students, and new graduate students, there is a service charge of $10 for cancellation of registration or withdrawal before the first day of instruction. Associated Student membership fees are not refundable after orientation week begins in the fall quarter, or after instruction begins in winter and spring quarters.

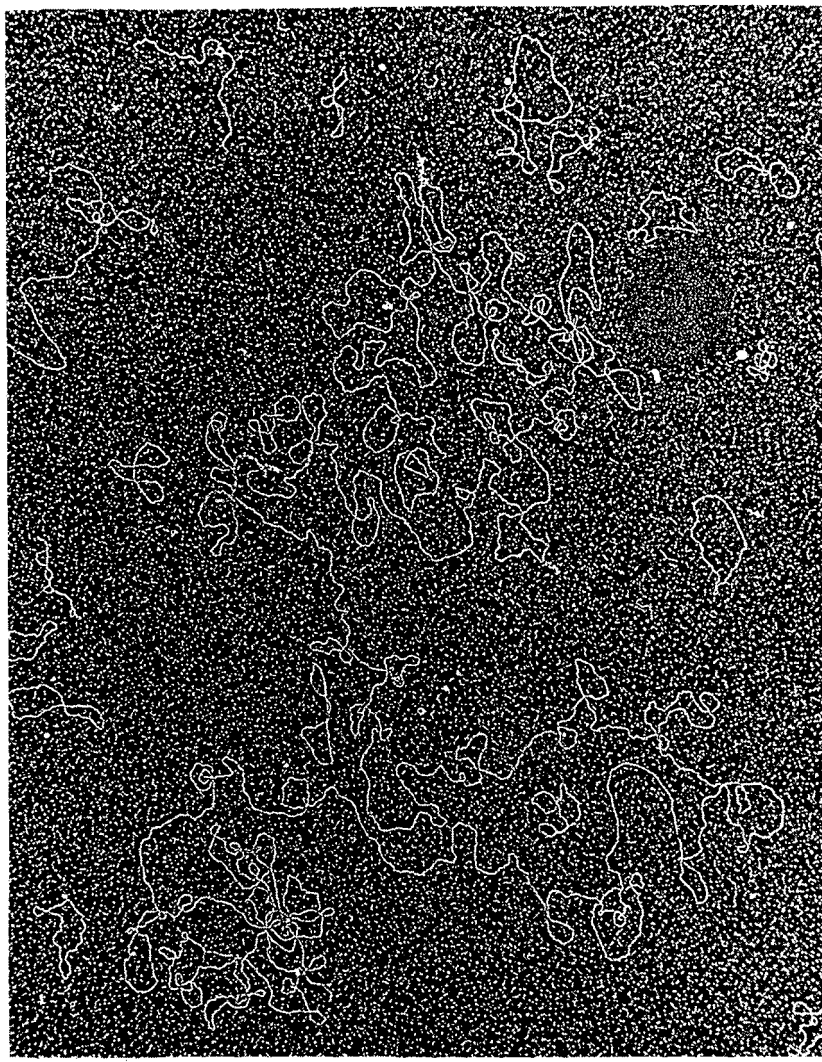
After instruction begins, a withdrawal form is necessary. Students who withdraw from the University during the first five weeks of instruction will receive refunds of registration fee, educational fee, and nonresident fee, less the $50 nonrefundable Undergraduate Acceptance of Admission fee, on the following basis, effective with the first day of instruction and the last day of class attendance: 1-14 calendar days, 80% of amount paid; 15-21 calendar days, 60% of amount paid; 22-28 calendar days, 40% of amount paid; 29-35 calendar days, 20% of amount paid; 36 calendar days and over, 0%.

Claims for refund of fees must be presented during the fiscal year (July 1 to June 30) in which the claim is applicable. To obtain a refund, the student must surrender his registration card to the Registrar's Office at the time of withdrawal. Refund checks are issued by the Accounting Office and are generally received about four weeks after the official withdrawal is submitted.

term paper, "Primitive Religions"
Pia Tregan, art major

graduate division

UC IRVINE - 1973-1974



Electron micrograph of DNA (A-14 phage)
Betty Thompson, biology

graduate division

Graduate study is a major aspect of the academic activity of the University of California, Irvine. Appropriate graduate degrees at the Master's and Doctor's levels, both those emphasizing the creative arts and creative scholarship and those emphasizing technical proficiency, are offered. See page 20 for a listing of degrees offered. The graduate student will be given full opportunity to further his development in a chosen discipline by course and seminar work and by research and other creative work; to achieve excellence in such resources as English, foreign languages, mathematics, bibliography, and computer techniques; to develop some knowledge of the history of his broad area of interest; and to acquire some understanding of higher education in this country and some guided experience in teaching.

Requirements for good standing and for the award of a higher degree are those of the University of California as a whole, supplemented by specific requirements of the Graduate Division, the school, and the department of specialization. See school or department writeups for their specific requirements.

The Master's Degree

The M.A. or M.S. is normally attained by one of two routes: Plan I, a thesis; or Plan II, a comprehensive examination. Both require a minimum of one year of residence on the campus, a certain number of courses maintained at a B average, and an appropriate demonstration of achievement. Plan I includes course work, of which a certain amount must be at the graduate level, a thesis, and, usually, general examination in the particular field of study. Under Plan II, further course work replaces the thesis, and an examination covering a broader range of subject matter is administered. Opportunities for special preparation in teaching, as well as guided experience in actual teaching, will be offered by most departments. Other Master's Degrees, awarded for professional competence and often requiring more extended work, are also offered. School and departmental statements should be examined for details.

The Doctor of Philosophy

This degree is awarded on the basis of evidence that the recipient possesses knowledge of a broad field of learning and expert mastery of a particular sector of it. It is not a reward for diligence but an indication of critical judgment, synthetic understanding, and imaginative creativity. The dissertation is expected to demonstrate such abilities. Other Doctor's Degrees, marking professional attainment, and with correspondingly different emphasis, are also being offered. The M.D. is offered through the College of Medicine.

The candidate for the doctorate is expected to be in full-time residence on the campus for two years. Three to five years of full-time academic work beyond the Bachelor's Degree is normally required to complete the degree.

During the first year or two of graduate work, the student is normally guided by a departmental advisor. When judged ready by the department, often aided by preparatory examinations, the student is encouraged to qualify for candidacy for the Doctor's Degree. At this time, a committee is appointed by the Dean of the Graduate Division, and it henceforth supervises his graduate program.

GRADUATE ADMISSIONS

Admission to the Graduate Division is by the Dean of the Graduate Division on the advice of the department. A Bachelor's Degree, or the equivalent, with adequate coverage and academic excellence, is a prerequisite. Students are invited to consult the department of interest for details on necessary background; deficiencies can sometimes be overcome by taking further specified undergraduate work.

Requirements

Students seeking admission to graduate status at the University of California must hold a bachelor's degree or its equivalent from an institution of acceptable standing. The program of preparation should be substantially equivalent, both in the distribution of academic subject matter and in scholarship achievement, to the requirements for a comparable degree at the University of California. The Dean of the Graduate Division and the school or department of specialization evaluate applications and formal preparation for the graduate field of study with specific reference to the previous college record, letters of recommendation, and the results of the Graduate Record Examination or like indicators of achievement in graduate work. Normally, only students working toward a higher degree can be admitted. Exceptions are students working toward California Teaching Credentials.

When to Apply

Application forms for admission to graduate status are available upon request from the Office of Graduate Admissions, University of California, Irvine; Irvine, California 92664. For applicants residing in the United States, applications must be on file no later than July 1 for the fall quarter, November 1 for the winter quarter, and January 1 for the spring quarter. (Some departments have special deadlines. Please see the Admission to Graduate Study brochure available in the Graduate Division for dates.) Although these are official deadlines, applications normally should be submitted well in advance of these dates, particularly in the case of students desiring financial assistance. The application deadline for financial aid is February 1.

How to Apply

The Graduate Division requires two complete sets of official records covering all work attempted, together with official evidence of degrees conferred, from all institutions of college level attended, including any campus of the University of California, regardless of length of attendance. To be official, records must bear the Registrar's signature and the seal of the issuing institution, and should be sent directly from the issuing institution. A summary of credit transferred and recorded on the transcript record issued by the institution granting the degree will not suffice, except in the case of graduates of the University of California. Undergraduates at UCI may have two copies of their complete undergraduate record sent to graduate admissions. In the absence of

official records and official evidence of graduation or degree, registration cannot be permitted. One set of transcripts of record and all other credentials are retained permanently in the files of the Graduate Division for applicants accepted for admission, and they may not be withdrawn and used by students for any purpose. The second set is forwarded to the appropriate department, retained there, and may be used by the student in conferring with departmental advisors. Individual departments may have special requirements for admission to graduate status.

The application must be accompanied by a $20 application fee in the form of a check, draft, or money order for the exact amount and made payable to The Regents of the University of California. In order to process applications in time for the scheduled registration days, it is necessary that complete and official transcripts be received before the above deadlines. Applications received after these deadlines will be considered only if time and circumstances permit and may be deferred for consideration for the following quarter. In any case, the applicant may be liable for an additional late registration fee. In cases where students have work in progress by the deadline dates given above, final transcripts covering such work must be received before registration can be permitted. Applications of such students will be considered on an individual basis and special late registration dates may be assigned.

Notification

A formal notice of admission or rejection is sent to each applicant as soon as possible after his application and complete records are received. All applicants, therefore, are advised to await official notification of admission from the Graduate Division before making definite plans or arrangements for attending the University.

Readmission

A student who is absent for one quarter or more must file an Application for Readmission which may be obtained from the Office of Graduate Admissions. A fee of $20.00 must accompany the application. This application is subject to the approval of the student's major department and the Dean of the Graduate Division.

Admission for Foreign Students

Foreign students are held to the same regulations affecting admission and candidacy as are students from the United States. As it normally takes much longer to obtain credentials and process foreign applications, foreign students are urged to apply at least six months prior to the deadline dates. Every foreign student from a non-English speaking country must take the TOEFL (Testing of English as a Foreign Language) Examination. Further information on this requirement and other provisions for foreign students may be obtained on request from the Office of Graduate Admissions.

Limited Status

Under certain conditions students holding a Bachelor's Degree are permitted to register in Limited Status in order to pursue various educational objectives. Although Limited Status is an undergraduate classification, only those applicants who have applied to the Graduate Division and were subsequently recommended for Limited Status may register in this category. Such students

may enroll in graduate courses only by special arrangement and under no circumstances will credit earned in Limited Status be counted toward a graduate degree. Furthermore, a student who has been refused admission to the Graduate Division on the basis of a low scholastic record cannot use his record in Limited Status to improve his grade-point average and thereby qualify for graduate status.

Intercampus Exchange Program for Graduate Students

A graduate student registered on any campus of the University who wishes to take advantage of educational opportunities available only at another campus of the University may, with the approval of his advisor and the Dean of the Graduate Division of his home campus and with approval of the Dean of the Graduate Division on the campus visited, become an intercampus Exchange Graduate Student for one or more quarters. This program will also include those students who take courses on more than one campus of the University in the same quarter.

Application forms for the Intercampus Exchange Program for Graduate Students may be obtained from the Office of the Dean of the Graduate Division on the student's home campus. Application should be made at least three weeks before the beginning of the quarter.

REGISTRATION

For general registration requirements, see pages 68-71. The following requirements apply to graduate students only.

Every graduate student in good standing, unless granted a formal leave of absence or honorable dismissal by the Dean of the Graduate Division, will be required to register with the Registrar of his campus each quarter until the completion of all requirements for the degree or credential for which he is working. Failure to register or to obtain formal permission to leave the University will constitute presumptive evidence that a student has withdrawn from the Graduate Division. No graduate student should fail to register for any quarter without first obtaining the leave appropriate to his situation. In case of doubt, the student should seek advice from the Graduate Division.

The regulations pertaining to candidates for higher degrees are as follows:

1. If the student plans to be in residence on the campus, he must register as a regular student.
2. Even if the student plans to be away from the campus during the quarter, but in correspondence with his department and in an instructional relationship with his advisors, he must register as a regular student.
3. If the student plans to be away from the campus for a specific period of time, and to have no connection with the University during that specific period, he must apply for a leave of absence.
4. Candidates for the Master's Degree or Doctorate who have completed all degree requirements including the residence requirements, and who are taking no further work in resident courses or in research may, if they are engaged in writing the thesis or dissertation or in preparing for the final examination, register for thesis or examination only.

ACADEMIC POLICIES

Continuous Registration

A candidate for a higher degree is required to register each quarter until all degree requirements are fulfilled (including the thesis or dissertation and final examination). Unless granted an official leave of absence, a graduate student who does not officially register for a quarter will be considered to have withdrawn from the University. If a student leaves the University within a term, he must obtain official approval to withdraw or he will receive nonpassing grades for all courses for which he is enrolled.

Academic Residence

A graduate student is considered to be in academic residence in order to satisfy the minimum residence requirement for any higher degree or certificate issued by the University, if he is registered for and completes a minimum of one course (four quarter units or the equivalent) in graduate or upper-division work during any regular University term. Waiver of residence requirements will be at the discretion of the Dean of the Graduate Division.

Leave of Absence

A leave of absence may be granted only if a student has completed a minimum of one quarter with at least a B average. Leaves are normally granted for not more than one year and must be approved by the academic department and the Graduate Division. Students who are on leave may not make use of University facilities and may not place demands upon the faculty. Forms are available in the Graduate Division.

Standard of Scholarship

All graduate students are expected to maintain at least a B average in all courses applicable to advanced degrees.

Transfer of Credit

Under certain conditions up to one-fifth of the minimum course requirement for the Master's Degree may be allowed for work taken in graduate status at another institution of high standing. (This does not apply to another branch of the University of California.) Please refer to your departmental requirements for the particular minimum course requirement in your area.

Summer Session

Credit from the Summer Session may be obtained by students who have been admitted to the Graduate Division.

FINANCIAL AIDS FOR GRADUATE STUDENTS

In order to be eligible for any graduate fellowship, assistantship, or traineeship, the applicant must have demonstrated superior scholastic ability and must have been approved for admission as a graduate student on the Irvine campus of the University, or must be a currently enrolled graduate student at UCI. The acceptance of a graduate fellowship or scholarship presumes that the recipient will devote himself to a full-time study and research program. Any exceptions must be approved by the Dean of the Graduate Division in advance. It is strongly recommended that all applicants for scholarships, fel-

lowships, and traineeships take the Graduate Record Examination. Applications for national competition fellowship programs must be submitted directly to the agency involved on their own application forms. Application for fellowship awards administered by UCI (as listed in a detailed brochure, available on request) should be submitted on the Application for Graduate Support form. Applications for loans, work-study, or University Grants-in-Aid can be obtained from the Office of Financial Aids.

The Application for Graduate Support should be made concurrently with application for admission approximately 9 to 12 months prior to the effective date of admission and /or support. Deadline for submission is February 1 for awards commencing the following fall. Please note that most scholarship awards are made for the academic year, while most federal fellowships are tenable for a full year, should the recipient and this institution determine that this is beneficial for his proposed program of study.

The University of California, Irvine does not send out notification of non-service awards until April 1 (preceding the fall quarter). These awards must be firmly accepted or declined, in writing, by April 15.

Teaching and Research Assistantships

In addition to fellowships and traineeships, there are Teaching and Research Assistantships available in most departments with stipends for half-time employment of a Teaching Assistant (an academic year appointment) of approximately $3,800 and of a Research Assistant (if an 11-month appointment) of approximately $4,020. Applicants for these appointments should contact the chairman of the department in which appointment is sought.

Nonacademic Employment

Students interested in nonacademic employment should contact the Office of Financial Aids, 1441 Library-Administration Building.

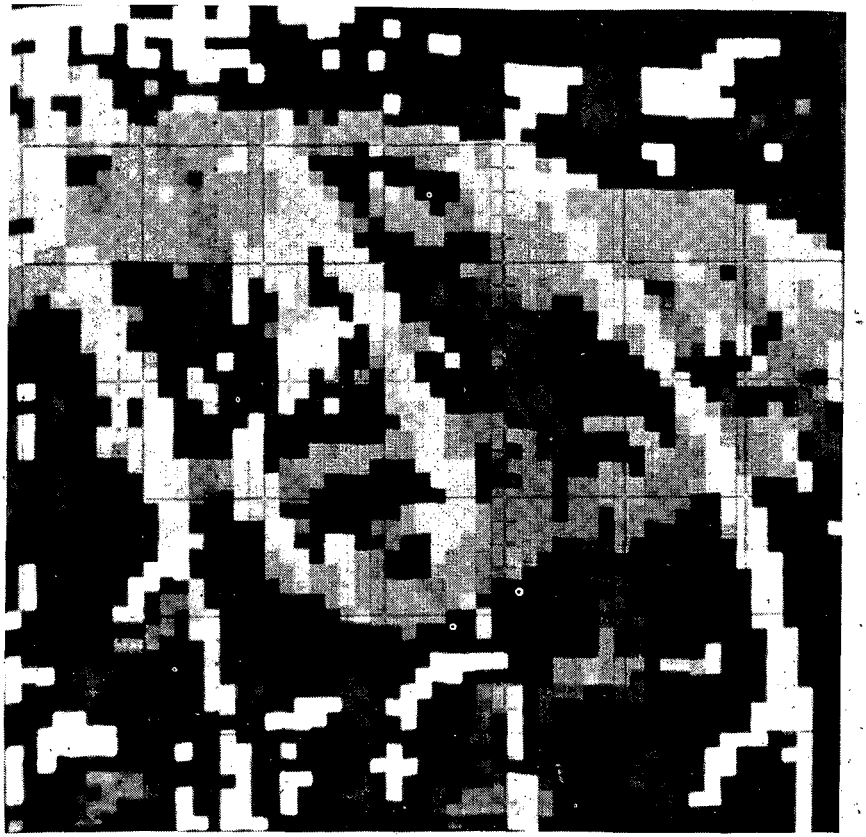
Graduate Loans

The National Direct Student Loan Program provides loans for graduate students pursuing a full-time program of study. Prospective as well as enrolled students may apply through the Office of Financial Aids, 1441 Library-Administration Building.

University Grant-in-Aid Program

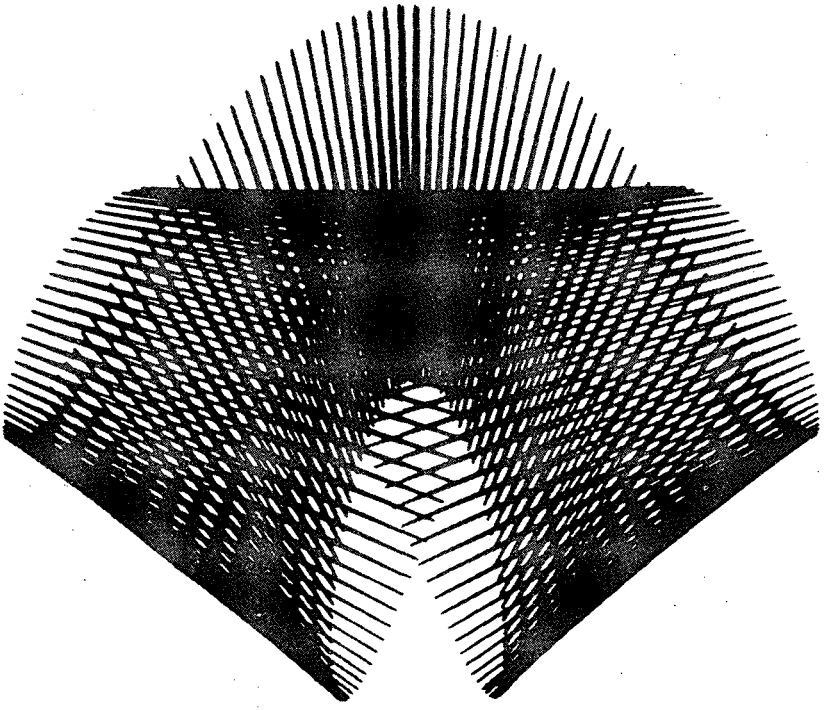
The University Grant-in-Aid Program is a program of assistance for students with a demonstrable financial need. Information and application forms can be obtained from the Office of Financial Aids, 1441 Library-Administration Building.

A detailed list of available fellowships and scholarships will be included in your application packet or you may obtain this information by writing to Graduate Admissions.



computer generated lung tumor pattern
Dana Ballard, engineering

schools and departments



computer generated drawing
John Collins, computer science

school of biological sciences

Howard A. Schneiderman
Dean

The School of Biological Sciences, founded by Dean Edward A. Steinhaus, reflects new concepts of biology in both its curriculum and its research programs. The faculty is dedicated to providing each student with the opportunity to avail himself of the principles and ever-increasing knowledge of the facts of biology. The curriculum is designed to meet present and future educational needs of majors and nonmajors. In keeping with the responsibilities of the University, the School encourages vigorous faculty and student research programs. It strongly believes that excellence in research is essential for effective, enthusiastic, and up-to-date teaching.

Of special importance to high school students desiring to enter the program in biological sciences is the recommendation to complete high school chemistry, mathematics through trigonometry, physics, and four years of English in addition to the required courses for entrance to the University.

The undergraduate program of the School serves both as a preprofessional major for students planning careers in the biological and biomedical sciences and as a liberal arts major for an increasing number of students who seek a scientific education. The program is designed to provide a broad academic base suitable for many careers. Graduates have found their way into a number of professions including biological and biomedical research, teaching, the health professions, environmental management, marine technology, agriculture, law, and other applied fields. It is a rigorous and rewarding program which requires a serious commitment from the student. It can also help him discover his capabilities.

The School offers majors and nonmajors the opportunity to study man and his environment, the control of development, the nature of learning and memory, the mechanism of gene action, and other central problems of contemporary science. The undergraduate program presents the biological sciences as an integrated area of study. It includes a central Core program, which develops the major concepts of biology, and satellite courses which allow for specialization. Introductory courses for nonmajors are designed to make the biological sciences meaningful and interesting and to inform intelligent citizens of biological phenomena that affect their daily lives. Graduate courses are offered in all the departments.

Upon completion of the Biological Sciences Curriculum, biology majors will have a foundation in science that meets the requirements of medical and professional schools. Students may then elect to pursue any one of a number of linking programs in interdisciplinary curricula. Programs in Environmental

Quality and Health, Social Ecology, Community Mental Health, Planning and Public Policy, Human Ecology, and Computer Science are among the options available to biology majors. Thus while preparing himself for medical or professional school, the biology major is able to develop another skill in an important and relevant area related to biology.

In addition to the above programs, students who are interested in a career in administration and who have completed all of the course requirements for a degree in the biological sciences may apply to the Graduate School of Administration for their "three-two" year program. During the first year, they will take courses in administration which will count toward the 180 elective units needed to receive a Bachelor's Degree. Upon successful completion of the required units, usually at the conclusion of the first year in the graduate program, the Bachelor of Science Degree in the Biological Sciences will be awarded.

Every undergraduate student in our School of Biological Sciences has the opportunity to do independent research in a professor's laboratory as an apprentice scientist. On pursuing research under the guidance of a senior scientist, the student is able to experience the challenge and excitement of the world of science and to develop new scientific skills. This activity may commence as early as the sophomore year, or in the case of exceptional students, earlier.

The success of our program can be measured in terms of the number of undergraduate research papers which are accepted by scientific Journals and also are published in our "Journal of Undergraduate Research in the Biological Sciences."

Special research resources include the following: Museum of Systematic Biology, a teaching and research facility which presently contains material on local populations of plants, invertebrates, and vertebrates; Center for Pathobiology, dedicated to the advancement of the understanding of disease and dedicated to the study of abnormal and normal development and the application of the results of such studies to pest control and pollution; the Irvine Arboretum, a botanic garden facility, envisaging the treatment of the whole campus under scientific management; and the San Joaquin Freshwater Marsh Reserve, which supports controlled marsh biota. The School, through the Marine Biology Coordinating Committee, is developing marine research and teaching facilities. Some of the facilities are maintained in lower Newport Bay. A marine biological laboratory has been constructed on Santa Catalina Island as a joint universities' project under the administrative direction of the Allan Hancock Foundation of the University of Southern California. It is important to note that the School has access to the California College of Medicine on our campus, thereby providing an opportunity for the sharing of both teaching and research activities. Many faculty members hold appointments in both schools. Many students in the School of Biological Sciences pursue individual research in the College of Medicine.

In addition to the above research opportunities, there are freshman, sophomore, and junior seminars which enable students to meet in small groups with individual professors. Also, through the education motivation and tutoring programs, students can immediately put to practice skills they have learned in their biology training.

The School of Biological Sciences welcomes student participation in all of its activities. An exciting and integral part of the School is the Dean's Council, an autonomous student group which provides additional liaison between administration, faculty, and students. Some of its activities include interaction of students and faculty in academic and social functions, evaluation of faculty and courses, initiation and implementation of new courses, motivation programs for elementary and high school minority students, conservation awareness programs, and other related areas. Full information on the Council, of which all biological sciences students are members, is available in the Biological Sciences Office of Student Affairs in Room 335, Steinhaus Hall.

Advisors and Advising Systems

Every undergraduate student in the School of Biological Sciences is responsible for selecting, with the assistance of his faculty advisor, a program of study consistent with the scholarship and degree regulations of the Irvine Division of the Academic Senate. The Biological Sciences Student Affairs Office coordinates the advising program and provides special services particularly in the area of preprofessional counseling.

Research Enrichment Program

The REP is open to highly qualified freshmen and sophomores who are planning a career in either health or life science research. The program offers the students special seminars, training in general biological laboratory techniques, and the opportunity to conduct original research and discuss their research with their peers and research advisors. Admission into the program will be based on the quality of a written essay, overall academic record, and an interview.

Degrees Offered in the School

Biological Sciences . . . . . B.S., M.A.T., M.S., Ph.D.
with opportunities to specialize in Developmental and Cell Biology, Molecular Biology and Biochemistry, Population and Environmental Biology, and Psychobiology

Honors

Of the graduating seniors, approximately 1% will be awarded *summa cum laude*, 3% *magna cum laude*, and 8% *cum laude*. Those students who graduate with an overall grade point average of 3.5 or better while carrying three or more graded courses per quarter for a minimum of six quarters will have their names inscribed on a permanent plaque in Steinhaus Hall. Special Dean's Honors may also be awarded to graduating seniors who have distinguished themselves by their services to the School, the University, or their community.

In addition to the above honors, students interested in research have an opportunity to Go-For-Honors in the biological sciences. In this program they take research courses, numbered 199, culminating in their senior year with a presentation of original research to the faculty and their peers. With successful completion of this program the students are awarded seals on their diplomas indicating that they have received honors in the biological sciences.

An annual Edward A. Steinhaus Award is given each spring to an outstanding graduate teaching assistant chosen by a committee composed of under-

graduate students, faculty members, representatives from the administration, and Mrs. Steinhaus.

Requirements for the Bachelor of Science Degree

University Requirements: See page 31.

School Requirements

Biological Sciences Core Curriculum (101A-B-C-D-E-F-G, 101LA-B-C-D-E-F); minimum of three satellite courses; Chemistry 1A-B-C; Chemistry 51A-B-C; Humanities 1A-B-C; Mathematics 2A-B-C or Mathematics 2A-B and 7; Physics 3A-B-C or 5A-B-C.

Transfer students, who have completed one year of acceptable college level English Composition and Literature, are exempted from the Humanities requirement.

Planning a Program of Study

Students have an opportunity at UCI to develop their own programs and decide what areas they want to study and how to go about attaining their goals.

Since biological sciences courses are built upon a base of the physical sciences, it is important for students to take their required physical sciences early. Most students enroll in chemistry and mathematics during their freshman year. We also recommend that students enroll in the humanities core course during their freshman year.

Sophomores continue with their chemistry, begin their biological sciences core, and take the humanities core course if they have not taken it during their freshman year. Sophomores often begin taking courses in other schools to meet the University breadth requirement, such as courses in fine arts, social ecology, computer science, and social sciences.

During their junior year, most majors complete their biological sciences core and take physics. Juniors complete their breadth requirements and often become involved in the satellite course requirements. Since most satellites are based upon information contained in the core, it is usually preferable for students to have completed most of the core before taking the satellites.

Finally, during their senior year, students become involved in an area of specialization within the school.

A main facet of the program in biological sciences is research. Many of our undergraduate students participate in research through our 199 program and through our Research Enrichment Program. Interested students should investigate the possibilities for research early, so that they can obtain a great deal of research experience, if they so desire, before they graduate. Although we do not require training in a foreign language, some areas of research demand that students possess language skills; for example, it is not possible to become expert in botany without a knowledge of German. Students are, therefore, encouraged to discuss foreign language needs with their advisors to see if such training is important for their own careers.

Many of our students desire a career related to their education in the biological sciences. Students can go into medicine, dentistry, optometry, podiatry,

and related medical fields, into teaching, and into research in the biological sciences. In properly preparing for such careers, planning is essential early in a student's education.

Advising for research careers in the biological sciences is best accomplished by students working together with their faculty advisors. Students who desire careers in research are urged to begin 199 research training as soon as possible. Advising for careers in the health sciences is a specialty of the Biological Sciences Student Affairs Office. See page 26 for additional information on the health sciences.

Premedical students and other students desiring to enter the health sciences should have their programs checked in the Biological Sciences Student Affairs Office, Room 335. They should also check deadlines for taking the Medical College Aptitude Test or other required tests which should be taken in the spring of the junior year.

The Medical College Admission Test, required by all medical schools, is administered in May and October of each year on the Irvine campus. Opportunities for studying for this test are available.

The Irvine tradition is that students are responsible for making out their own programs. However, all students are urged to see their faculty advisors at least once each quarter, particularly before enrolling for the fall quarter.

Recommended Programs

There are many different routes a student may elect to reach his goal. Two routes are suggested below.

Note that these are only suggested programs. Students are responsible for making final decisions on their programs after consulting their advisors.

In order to obtain a Bachelor's Degree in four years, a student is required to average 15 quarter units per quarter.

Route A

FRESHMAN	Units	SOPHOMORE	JUNIOR	SENIOR
Fall				
Gen. Chem. 1A	5	Org. Chem. 51A	Bio. 101D/LD	Bio. 101G
Humanities 1A	8	Bio. 101A/LA	***Physics 3A	Bio. satellites
Bio. 2 Fr. Sem.	1	Math 2C or 7	Bio. satellite	Research
	14	**Electives	or Elective	Electives
Winter				
Gen. Chem. 1B	5	Org. Chem. 51B	Bio. 101E/LE	Research
Humanities 1B	8	Bio. 101B/LB	Physics 3B	Electives
*Math 2A	4	Electives	Bio. satellite	
	17		or Elective	
Spring				
Gen. Chem. 1C	5	Org. Chem. 51C	Bio. 101F/LF	Research
Humanities 1C	8	Bio. 101C/LC	Physics 3C	Electives
Math 2B	4	Electives	Bio. satellite	
	17		or Elective	

Route B

Fall				
Gen. Chem. 1A	5	Org. Chem. 51A	Bio. 101D/LD	Bio. satellites
Math 1A or 2A	4	Bio. 101E/LE	Physics 3A	Research
Bio. 101A/LA	4	Humanities 1A	Bio. satellite	Electives
Subject A	0		or Elective	
	13			
Winter				
Gen. Chem. 1B	5	Org. Chem. 51B	Bio. 101F/LF	Research
Math 2A or 2B	4	Humanities 1B	Physics 3B	Electives
Bio. 101B/LB	5	Bio. satellite or	Bio. satellite	
Bio. 2 Fr. Sem.	1	Elective	or Elective	
	15			
Spring				
Gen. Chem. 1C	5	Org. Chem. 51C	Bio. 101G	Research
Math 2B or 2C	4	Humanities 1C	Physics 3C	Electives
Bio. 101C/LC	5	Bio. satellite or	Bio. satellite	
	14	Elective	or Elective	

Route C

Route C is a program which might be followed by truly superior students and particularly by those interested in research. It is a difficult program which is not recommended for most students.

FRESHMAN		SOPHOMORE	JUNIOR	SENIOR
Fall	Units			
Gen. Chem. 1A	5	Org. Chem. 51A	Bio. 101D/LD	Bio. 101G
Humanities 1A	8	Bio. 101A/LA	Physics 3A	Bio. Satellite
Math 2A	4	Bio. 55 Soph.	Bio. 199	Bio. 199
Bio. 2 Fr. Sem.	1	Sem.	Bio. 190 Jr.	Phys. Chem.
	18	**Electives	Sem.	131 B
			Math 70A	Elective
			(Statistics)	
Winter				
Gen. Chem. 1B	5	Org. Chem. 51B	Bio. 101E/LE	Bio. Satellite
Humanities 1B	8	Bio. 101B/LB	Physics 3B	Bio. 199
Math 2B	4	Bio. 55 Soph.	Bio. 199	Phys. Chem.
Bio. 2 Fr. Sem.	1	Sem.	Bio. 190 Jr.	131B
	18	Electives	Sem.	Elective
			Math 70B	
Spring				
Gen. Chem. 1C	5	Org. Chem. 51C	Bio. 101F/LF	Bio. Satellite
Humanities 1C	8	Bio. 101C/LC	Physics 3C	Bio. 199
Math 2C	4	Bio. 199	Bio. 199	Bio. 123
Bio. 1 Fr. Sem.	1	Elective	(Go-For-	Elective
	18		Honors)	
			Bio. Satellite	
			or Elective	

*Add depending on grade point average and progress

**Electives should be chosen with the following purposes in mind:

1. UCI breadth requirements
2. Students' own breadth
3. Preprofessional training

Biological Sciences Seminars 2 (Freshman – 1 unit), 55 (Sophomore – 2 units), and 190 (Junior – 2 units), offer students an opportunity to meet in small groups with a faculty sponsor.

Students interested in the health sciences should choose electives in the social sciences, possibly a foreign language, quantitative analysis, physical chemistry, or other specific courses required or recommended by graduate schools. Students planning a career in elementary or secondary teaching may choose electives among education courses in their junior and senior years.

The UCI breadth requirement is 6-3-3 (6 courses in a school outside of the student's major, 3 in a second school, and 3 in a third school). Biological Sciences majors fulfill two of these requirements as part of their normal program. The 6-course requirement is met by courses in the physical sciences; one of the 3 is met by Humanities 1A-B-C. Students, therefore, must take 3 additional courses in another school or program on the campus; for example:

Fine Arts: History of Art 40A-B-C, History of Music 40A-B-C, or any 12 units of Fine Arts

Information and Computer Science: Introduction to Digital Computation 1, Computers and Programming 2, Computer Appreciation 10

Social Ecology: Environmental Quality and Citizen Action 52, Understanding "The System" in Orange County 80, Forms of Criminal Behavior 40A-B, Abnormal Behavior 20

Social Sciences: Anthropology 2, Psychology 7, Sociology 8

Hopefully, a student for his own breadth will sample courses in all of the major disciplines. Math 70A-B (Statistics) is highly recommended.

***Physics 3A-B-C is the course for nonmajors and is fully acceptable for a degree in the Biological Sciences. Physics 5A-B-C, which begins in the winter quarter, better prepares a student to take Physical Chemistry 131 and for some graduate programs.

GRADUATE PROGRAMS

The School of Biological Sciences offers programs in a wide variety of fields ranging across the spectrum of the biological sciences. The organization of the departments within the School encourages an interdisciplinary approach to scientific problems, especially at the graduate level.

A program leading to the degree of Master of Arts in Teaching of Biology (M.A.T.) is offered by the School. Programs leading to the degrees of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) in the Biological Sciences are administered by all the departments for the School. Each Department has a graduate advisor whom the student may consult in regard to the technical details of his individual program.

Applications for admission for graduate study are evaluated both by the Graduate Division and by the School or the Department to which the student has applied on the basis of letters of recommendation, Graduate Record Examination scores, grades, and other qualifications of the applicant.

Master of Arts in Teaching of Biology

This program is primarily for credentialed biology teachers who are currently teaching. It aims to provide them with a program of modern, relevant course work and curricular research which will enable them to teach up-to-date, advanced high school and junior college courses. The program will be structured so that the working teacher can take courses in evenings, weekends, and sum-

mers, and could complete the requirements in two summer sessions and one academic year.

Master of Science and Doctor of Philosophy in the Biological Sciences

While both the Master of Science and Doctor of Philosophy programs are offered, emphasis at the graduate level is on the Ph.D. programs. Most training takes place within one of the four departments, although full facilities and curricular offerings are available to all graduate students in all departments of the biological sciences. Interdisciplinary study and research are encouraged.

Students are expected to maintain a "B" average at all times, attain the Master's Degree in two years, and attain the Ph.D. in four years. A Master's Degree, however, is not a prerequisite for the Ph.D. Degree.

Each new student is assigned a faculty member as his temporary advisor. During the first part of the initial year of graduate work, the student plans an academic program in consultation with the graduate advisor or a small committee. Faculty advisors are changed if the specific interests of the student change. Students are encouraged to consult with other faculty members with regard to their research and academic interests.

In addition to their own research and the seminars and colloquia required by the individual departments, all graduate students receive guided teaching experience. During their graduate training all students will serve some time as teacher apprentices under the direction of advanced teaching assistants and faculty. Advanced graduate students may work closely with faculty in the planning and execution of the teaching program. The amount and exact nature of the teaching experience varies with the department.

Master of Science

Plan I: Thesis Plan – The student completes seven upper-division or graduate courses including a minimum of five nonresearch courses. The student then presents a thesis based upon research done while in the School.

Plan II: Comprehensive Examination Plan – The student completes a minimum of nine upper-division and graduate courses. At least five must be graduate courses (numbered 200-299) in the student's field of specialization. This program is terminated with a comprehensive final examination.

Doctor of Philosophy

First Level of Competence – The student attains this level by completing oral or written examinations at the discretion of the department.

Second Level of Competence – This level is attained by passing an examination dealing with the student's particular interests. A committee for the purpose of administering this examination is appointed by the Dean of the Graduate Division.

Once this examination is completed, the student is advanced to candidacy for the degree and is considered to have formally begun his dissertation research. The student submits a dissertation on this research and defends it at an oral examination during the final year of graduate study.

SCHOOL OF BIOLOGICAL SCIENCES FACULTY

Howard A. Schneiderman, Ph.D. Harvard University, *Dean of the School of Biological Sciences, Chairman of the Department of Developmental and Cell Biology, Director of Center for Pathobiology, Professor of Biological Sciences*

Richard E. Whalen, Ph.D. Yale University, *Associate Dean of the School of Biological Sciences, Professor of Psychobiology*

Rosevelt L. Pardy, Ph.D. University of Arizona, *Assistant Dean of the School of Biological Sciences, Lecturer in Biological Sciences*

Joseph Arditti, Ph.D. University of Southern California, *Associate Professor of Biological Sciences*

Stuart M. Arfin, Ph.D. Yeshiva University, Albert Einstein College of Medicine, *Assistant Professor of Biochemistry*

Edward R. Arquilla, M.D., Ph.D. Western Reserve University, *Chairman of the Department of Pathology, Professor of Pathology*

Peter R. Atsatt, Ph.D. University of California, Los Angeles, *Associate Professor of Biological Sciences*

Ernest A. Ball, Ph.D. University of California, Berkeley, *Professor of Biological Sciences*

Michael W. Berns, Ph.D. Cornell University, *Associate Professor of Biological Sciences*

Hans R. Bode, Ph.D. Yale University, *Assistant Professor of Biological Sciences*

Arthur S. Boughey, Ph.D. Edinburgh University, *Professor of Biological Sciences*

Peter J. Bryant, Ph.D. University of Sussex, *Assistant Professor of Biological Sciences*

Susan V. Bryant, Ph.D. University of London, *Assistant Vice Chancellor for General Administration – Academic Affairs, Assistant Professor of Biological Sciences*

Richard D. Campbell, Ph.D. The Rockefeller University, *Associate Professor of Biological Sciences*

F. Lynn Carpenter, Ph.D. University of California, Berkeley, *Assistant Professor of Biological Sciences*

Jeffrey L. Clark, Ph.D. University of Chicago, *Assistant Professor of Biochemistry*

Carl Cotman, Ph.D. Indiana University, *Associate Professor of Biochemistry*

Dennis D. Cunningham, Ph.D. University of Chicago, *Assistant Professor of Microbiology*

Peter S. Dixon, Ph.D. University of Manchester, *Director of Museum of Systematic Biology, Professor of Biological Sciences*

Donald E. Fosket, Ph.D. University of Idaho, *Associate Professor of Biological Sciences*

Ralph W. Gerard, M.D. Rush Medical, Ph.D. University of Chicago, D.Sc., LL.D., Litt.D., *Professor Emeritus of Biological Sciences, Advisor to the Vice Chancellor – Academic Affairs*

Roland A. Giolli, Ph.D. University of California, Berkeley, *Associate Professor of Psychobiology and Anatomy*

Albert Globus, M.D. Northwestern University, *Assistant Professor of Psychobiology and Anatomy*

Charles N. Gordon, Ph.D. New York University, *Assistant Professor of Biochemistry*

Gale A. Granger, Ph.D. University of Washington, *Associate Professor of Biochemistry*

Noelle A. Granger, Ph.D. Case Western Reserve University, *Lecturer in Biological Sciences*

Gerald A. Greenhouse, Ph.D. City University of New York, *Assistant Professor of Anatomy*

Peter F. Hall, Ph.D. University of Utah, M.D. University of Sydney, *Chairman of the Department of Physiology, Professor of Physiology*

Wesley Hatfield, Ph.D. Purdue University, *Assistant Professor of Microbiology*

Patrick L. Healey, Ph.D. University of California, Berkeley, *Associate Professor of Biological Sciences* (on leave)

George L. Hunt, Ph.D. Harvard University, *Assistant Professor of Biological Sciences*

Kenneth H. Ibsen, Ph.D. University of California, Los Angeles, *Assistant Professor of Biochemistry*

Robert K. Josephson, Ph.D. University of California, Los Angeles, *Vice Chairman of the Department of Developmental and Cell Biology, Professor of Biological Sciences and Psychobiology*

Keith E. Justice, Ph.D. University of Arizona, *Associate Professor of Biological Sciences*

Herbert P. Killackey, Ph.D. Duke University, *Assistant Professor of Psychobiology*

David T. Kingsbury, Ph.D. University of California, San Diego, *Assistant Professor of Microbiology*

Harold Koopowitz, Ph.D. University of California, Los Angeles, *Assistant Professor of Biological Sciences*

Stuart M. Krassner, Sc.D. The Johns Hopkins University, *Associate Professor of Biological Sciences*

Howard M. Lenhoff, Ph.D. The Johns Hopkins University, *Professor of Biological Sciences* (On leave W and S)

Mark M. Littler, Ph.D. University of Hawaii, *Assistant Professor of Biological Sciences*

Gary Stephen Lynch, Ph.D. Princeton University, *Assistant Professor of Psychobiology*

Richard E. MacMillen, Ph.D. University of California, Los Angeles, *Chairman of the Department of Population and Environmental Biology, Professor of Biological Sciences*

Gordon A. Marsh, B.S. University of California, Berkeley, *Curator of Museum of Systematic Biology, Lecturer in Biological Sciences*

James L. McGaugh, Ph.D. University of California, Berkeley, *Chairman of Department of Psychobiology, Professor of Psychobiology and Psychiatry & Human Behavior (on leave 1973-74)*

Calvin S. McLaughlin, Ph.D. Massachusetts Institute of Technology, *Associate Professor of Biochemistry*

Kivie Moldave, Ph.D. University of Southern California, *Chairman of the Department of Biological Chemistry, Professor of Biochemistry*

Harris S. Moyed, Ph.D. University of Pennsylvania, *Chairman of the Department of Medical Microbiology, Professor of Microbiology*

Ernest P. Noble, Ph.D. Oregon State University, M.D. Case Western Reserve, *Professor of Psychobiology, Psychiatry & Human Behavior, Medical Pharmacology & Therapeutics*

Dennis Piszkiewicz, Ph.D. University of California, Santa Barbara, *Assistant Professor of Biochemistry*

Donald J. Raidt, Ph.D. University of Kansas, *Assistant Professor of Microbiology*
Philip W. Rundel, Ph.D. Duke University, *Assistant Professor of Biological Sciences*
Roger R. Seapy, Ph.D. University of Southern California, *Assistant Professor of Biological Sciences*
Wendell M. Stanley, Jr., Ph.D. University of Wisconsin, *Associate Professor of Biochemistry*
Arnold Starr, M.D. New York University, *Associate Professor of Psychobiology and Medicine*
Grover C. Stephens, Ph.D. Northwestern University, *Professor of Biological Sciences*
Betsy M. Sutherland, Ph.D. University of Tennessee, *Assistant Professor of Molecular Biology*
Paul S. Sypherd, Ph.D. Yale University, *Professor of Microbiology*
Krishna K. Tewari, Ph.D. Lucknow University, *Associate Professor of Biochemistry*
Marcel Verzeano, M.D. University of Pisa Medical School, *Professor of Psychobiology*
Edward K. Wagner, Ph.D. Massachusetts Institute of Technology, *Assistant Professor of Virology*
Robert C. Warner, Ph.D. New York University, *Chairman of Department of Molecular Biology and Biochemistry, Professor of Biochemistry*
Jack C. Waymire, Ph.D. Ohio State University, *Assistant Professor of Psychobiology*
Norman M. Weinberger, Ph.D. Western Reserve University, *Vice Chairman of the Department of Psychobiology, Associate Professor of Psychobiology*
Stephen H. White, Ph.D. University of Washington, *Assistant Professor of Physiology*
Clifford A. Woolfolk, Ph.D. University of Washington, *Associate Professor of Microbiology*
Daniel L. Wulff, Ph.D. California Institute of Technology, *Associate Professor of Biochemistry*
Pauline I. Yahr, Ph.D. University of Texas, *Lecturer in Psychobiology*

While professors have their homes in one of the four departments within the School, each professor is actively engaged in teaching and research with undergraduate students. For specific areas of interest, see listings under the various departments: Developmental and Cell Biology, page 111; Molecular Biology and Biochemistry, page 113; Population and Environmental Biology, page 116; Psychobiology, page 118.

UNDERGRADUATE COURSES IN BIOLOGICAL SCIENCES

Undergraduates have the opportunity to concentrate in several areas of biology which may be defined by taking a series of related courses in the School. Examples of these areas and courses involved are listed below.

Animal Physiology: 133, 138, 163, 173, 188
Behavior: 157, 158, 159, 174
Cell Biology: 129, 139, 144, 161
Developmental Biology: 136, 137C, 139, 145, 146, 148, 149
Ecology: 165, 166, 167, 169, 171, 179, 184, 186

Entomology: 149, 150, 177, 188
Genetics: 137A, 137B, 137C, 170
Marine Biology: 169, 175, 176, 178, 179, 180, 181, 182
Microbiology: 121, 122, 124
Plant Sciences: 132, 134, 146, 171, 172, 175
Neurophysiology: 133, 153, 154, 156, 160, 161, 162, 163, 164

Courses for Nonmajors Only

(Nonmajors may also take other courses for which they have the prerequisites.) See page 5 for explanatory notes on course listings.

1A-B-C Introductory General Biology
Lecture, three hours; laboratory, one and three quarters hours. Introduces general framework of biology and its underlying philosophy, with particular emphasis on man as a member of the biosphere.

1A (1¼) F
The fundamental rules of life; evolution; mechanics of heredity and human genetics.

1B (1¼) W
Biology of unicellular and multicellular organisms, with attention to the structure and function of the human body. Prerequisite: Biological Sciences 1A.

1C (1¼) S
Principles of ecology: application to populations, communities, and ecosystems.

10 Introduction to Molecular Biology and Biochemistry (1) W
Lecture, three hours. Structure and function of the cell. Emphasizes genetic determination and control of cellular properties. Cellular differentiation, specialized cell functions, and abnormal cells such as tumors, virus-infected cells, and bacterial diseases.

11 Populations and Environments (1) S
Lecture, three hours; discussion, one hour. An introduction to Population and Environmental Biology.

103A-B-C Biological Bases of Human Behavior
Lecture, three hours. An introduction to the biological bases of human behavior which consists of three courses forming a one-year sequence. There are no prerequisites to any of the courses, but it is recommended that they be taken in sequence in order to provide maximum continuity of subject material.

103A The Evolution and Development of Behavior (1) F
A consideration of mankind's heritage from a biological perspective. The evolution of the behavior of animals and of man and woman as seen from genetic and historical perspectives.

103B The Brain and Behavior (1) W
Consideration of the brain mechanisms underlying psychological processes, including consciousness and sleep, sex, hunger, perception, learning, memory, and language.

103C The Biology of Behavior Disorders (1) S
Consideration of current facts and theories regarding mental illness, brain damage, sexual deviance, violence, and intellectual functioning.

Courses for Both Majors and Nonmajors

46 Problems in Ecology (1) W
Lecture, one hour; seminar, two hours. Examination of selected areas in ecology, the stability of ecosystems, species diversity, and population regulation. Students wi prepare summaries of the literature for class presentation. Prerequisite: Consent of instructor.

60 Horticultural Sciences (1) F
Lecture, three hours; field, three hours. Theory and practice of plant culture. Basic

aspects of plant structure and function, soil science, plant pathology, plant pests and irrigation, and the applied aspects of horticulture. Plant cultivation in a garden plot. Pass/Not Pass only.

61 Horticultural Sciences Field (½) F, W, S, Summer
Continuation of field work begun in previous quarter. Prerequisite: Completion of Biological Sciences 60. May not be repeated for credit.

67 Biology of Seed Plants (1¼) W
Lecture, three hours; laboratory, three hours. Flowering plants considered in terms of their structure and function. These will be related to their roles in ecology and human needs.

71 Introduction to Human Physiology (1) Summer
Lecture, three hours. The respiratory, cardiovascular, excretory, digestive, and autonomic nervous systems with final emphasis on the functioning unity of the interacting systems of the human body.

78 Health (1-1-1) F, W, S
Lecture, three hours. Lectures by eminent scientists and discussion on subjects relating to the basic current issues in health areas. Topics will vary from year to year. Pass/Not Pass only.

81 Biology and Public Policy (1) W
Lecture, two hours; discussion, one hour. Relation between biology and biological scientists and the formulation and execution of public policies. Topics such as population, delivery of health care, pollution. Prerequisite: One year of biology, or one year of social science, or consent of instructor.

82 Frontiers in Biology (1-1) W, S
Lecture, three hours; discussion, one hour. Recent developments in biological sciences as revealed in works of School faculty. Reading of pertinent Scientific American offprints and selected original research papers.

Core Curriculum

Biological Sciences Lectures 101A-B-C-D-E-F-G and Laboratories 101LA-B-C-D-E-F required of all biological sciences majors. Exception: Transfer students, who have successfully completed one or more years of college biology, should consult with our Student Affairs Office for possible exemption from the first year of our Core. Lecture, three hours; laboratory, three hours, except 101LG, six hours.

101A Evolutionary Biology (1) F
Lecture. Introduction to the diversity of plant and animal life and the origin of this diversity. Prerequisite: Concurrent enrollment in or completion of Chemistry 1A-B-C.

101LA Evolutionary Biology Laboratory (¼) F
Prerequisite: Concurrent enrollment in Biological Sciences 101A.

101B Developmental and Cell Biology (1) W
Lecture. The basic concepts of cell biology will be treated in terms of the developing organism. Gametogenesis, fertilization, embryonic determination and differentiation, morphogenesis, organogenesis, and the genetic control of plant and animal development will be discussed. The structure and function of the various organelles will be examined in the context of their developmental concepts. Prerequisite: Biological Sciences 101A.

101LB Developmental and Cell Biology Laboratory (¼) W
Prerequisite: Concurrent enrollment in Biological Sciences 101B.

101C Physiology (1) S
Lecture. The major functional features of plants and animals relevant to their survival. The principal focus of discussion is the whole organism and its constituent organs and organ systems; functional attributes of cells are introduced as required.

Discussion of neurophysiology and behavior is deferred to 101D. Prerequisite: Biological Sciences 101B.

101LC Physiology Laboratory (¼) S
Prerequisite: Concurrent enrollment in Biological Sciences 101C.

101D Psychobiology (1-1) F, W
Lecture. Neurobiological bases of behavior; aspects of the physiology, chemistry, anatomy, and evolution of the central nervous system underlying basic behavioral processes. Prerequisite: Biological Sciences 101C.

101LD Psychobiology Laboratory (¼-¼) F, W
Prerequisite: Concurrent enrollment in Biological Sciences 101D.

101E Ecology (1-1) F, W
Lecture. Basic ecological principles and their relevances at the several levels of organization: individuals, populations, communities, and ecosystems; interactions of these levels with the physical and biotic environments. Prerequisite: Biological Sciences 101C.

101LE Ecology Laboratory (¼-¼) F, W
Prerequisite: Concurrent enrollment in Biological Sciences 101E.

101F Biochemistry and 101G Molecular Biology form a continuous sequence covering modern biochemistry and molecular biology.

101F Biochemistry (1-1) W, S
Structure and properties of proteins; major biochemical pathways and the mechanisms for their control. Prerequisite: Completion of or concurrent enrollment in Chemistry 51B.

101LF Biochemistry Laboratory (¼-¼) W, S
Experiments on the properties of enzymes and on the culture and isolation of mutants of micro-organisms. Prerequisite: Concurrent enrollment in Biological Sciences 101F.

101G Molecular Biology (1-1) F, S
Biochemistry and replication of nucleic acids; molecular genetics; protein biosynthesis; genetic code; regulation of expression of genetic information; biochemical evolution. Prerequisite: Biological Sciences 101F.

101LG Molecular Biology Laboratory (½) F
Elective – not required for Core. Experiments on enzymatic synthesis of polynucleotides and their use as messengers in protein biosynthesis to demonstrate the nature of the genetic code. Prerequisite: Concurrent enrollment in Biological Sciences 101G and consent of instructor.

Satellite Courses

121 Immunology (1) F
Lecture, three hours. Host immune response (bacterial, viral, tumors, and transplantation), structure and function of antibody molecules; important current theories. Prerequisite: Biological Sciences 101F.

122 General Microbiology (1) F
Lecture, three hours. Comparative metabolism of small molecules and cell structure and relationship to microbial classification. Macromolecule synthesis and regulation, sporulation, cell division, growth, and effect of antibiotics. Prerequisite: Biological Sciences 101F.

122L General Microbiology Laboratory (1) F
Laboratory, nine hours. Isolation of organisms of desired biochemical characteristics; exploitation for use in industrial, medical, and biochemical application. Prerequisite: Concurrent enrollment in Biological Sciences 122.

123 Biophysical Chemistry (1) S
Lecture, three hours; discussion, one hour. Determination of the structure and

properties of molecules and biological macromolecules using spectroscopic, hydrodynamic, thermodynamic and radiation scattering methods. Same as Chemistry 130C. Prerequisites: Chemistry 130A-B.

124 Virology (1) S
Lecture, three hours. Infective cycle, growth, reproduction and host interrelationships of animal viruses. Molecular effects of virus infection in cells and animals and the relation between virus infection and cancer. Prerequisite: Biological Sciences 101F.

124L Virology Laboratory (1) S
Laboratory, six hours. Selected students may participate in the laboratory portion of Biological Sciences 124.

125 Radiation Biology (1) W
Lecture, three hours. Effects of ionizing and ultraviolet radiation on biological molecules, cells, and organisms. Generation and absorption of radiation. Types of radiation damage and their repair. Effects of radiation on man and his environment. Prerequisite: Biological Sciences 101G.

129 Biogenesis of Cell Organelles (1) S of even years
Lecture, three hours. Study of cell structures such as nuclei, chloroplasts, mitochondria, ribosomes, and membranes. Prerequisite: Biological Sciences 101G.

132 Comparative Plant Morphology (1) F
Lecture, three hours. Forms, structures, and functions of vegetative and reproductive aspects of algae, fungi, bryophytes, and vascular plants. Prerequisites: Biological Sciences 101B-C-D or consent of instructor.

132L Comparative Plant Morphology Laboratory (¼) F
Laboratory, three hours. Prerequisite: Concurrent enrollment in or completion of Biological Sciences 132.

133 Sensory Physiology (1) S
Lecture, 3 hours. Physiology and function of sense organs. Emphasis on transduction at the cellular level. Prerequisite: Consent of instructor.

133L Sensory Physiology Laboratory (¼) S
Laboratory, 3 hours. Prerequisite: Concurrent enrollment in or completion of Biological Sciences 133.

134 Plant Physiology (1) S
Lecture. Hormonal and autotrophic aspects of physiology: hormones; environment stimuli: photosynthesis and translocation. Prerequisite: Consent of instructor.

134A Plant Physiology (1) S
Lecture, three hours. Plant hormones, growth and development. Prerequisite: Biological Sciences 67 or consent of instructor.

134LA Plant Physiology Laboratory (¼) S
Laboratory, three hours. Prerequisite: Concurrent enrollment in or completion of Biological Sciences 134A.

134B Plant Physiology (1) F
Lecture, three hours. Plant metabolism, mineral nutrition, photosynthesis, cell physiology. Prerequisite: Biological Sciences 67 or consent of instructor.

134LB Plant Physiology Laboratory (¼) F
Laboratory, three hours. Prerequisite: Concurrent enrollment in or completion of Biological Sciences 134B.

135 Physical Chemical Aspects of Biological Function (1) F
Lecture, three hours. Topics in physical chemistry with application in biology. Previous physical chemistry not required. Prerequisite: Biological Sciences 101F.

136 Developmental Biology (1) S
Lecture, three hours. Genic, environmental, and biochemical aspects of animal and

plant development. Analysis of polarity, symmetry, differentiation, regeneration, cell movements, hormone activity, genic control, and abnormal growth in development of plants and animals. Prerequisite: Biological Sciences 101C or consent of instructor.

137A-B-C Genetics F, W, S

137A Genetics of Bacteria and Viruses (1) F
Lecture, four hours. Prerequisite: Biological Sciences 101C.

137B Eucaryote Genetics (1¼) W
Lecture, four hours; laboratory, three hours. Basic genetics of animals, plants, and man. Prerequisite: Biological Sciences 101C.

137C Special Topics in Genetics (1) S
Seminar, three hours. Extension of 137B to developmental, behavioral, and human genetics. Prerequisite: Biological Sciences 137B.

138 Comparative Animal Physiology (1) F
Lecture, three hours. Maintenance aspects of physiology: water balance; feeding and digestion, metabolism; respiration and circulation. Prerequisite: Biological Sciences 101C.

138L Comparative Animal Physiology Laboratory (¼) F
Laboratory, three hours. Prerequisite: Concurrent enrollment in or completion of Biological Sciences 138.

139 Cell Development (1) W
Lecture, three hours. An examination of the cellular and molecular events that occur as cells progress through their mitotic cycle. Prerequisite: Completion of or concurrent enrollment in Biological Sciences 101F.

142 Molecular Biology of Development (1) W of odd years
Lecture/discussion, three hours. Molecular mechanisms in the control of development. Emphasis will be placed on cell differentiation. Prerequisite: Biological Sciences 101G or consent of instructor.

143 Symbiosis (1) S of odd years
Lecture, three hours. Introduction to the variety of symbiotic relations ranging from parasitism to mutualism. Prerequisite: Biological Sciences 101C or consent of instructor.

144 Cell Biology (1) F
Lecture, four hours. Ultrastructure, function and structure of cellular organelles, relationships between nucleus and cytoplasm. Prerequisite: Biological Sciences 101F.

145 Principles of Regeneration (1) F
Lecture, four hours. Problems concerning the developmental restoration of body parts in invertebrate and vertebrate animals. Prerequisite: Biological Sciences 136.

146 Problems in Cell Development (½-½-½) F, W, S
Lecture/discussion, one and one-half hours. Basic problems in the molecular, genetic, and physiological control of cell development. Prerequisite: Consent of instructor.

147 Plant Morphogenesis (1) W
Lecture, three hours. Utilization of current literature, with demonstrations of the origins, micro and ultrastructure development of the plant. Theoretical considerations of genic and environmental factors in development stressed. Prerequisite: Biological Sciences 136 or consent of instructor.

148 Vertebrate Embryology (1¼) W
Lecture, three hours; laboratory, four hours. Introduction to the study of animal development through organogenesis with emphasis on the vertebrates. Prerequisite: Introductory course in biological sciences.

149 Insect Development (1) S
Lecture, three hours. Insects as providing ideal experimental situations for analyzing

major problems of developmental biology. Emphasizes genetic and endocrine aspects. Prerequisite: Consent of instructor.

150 Economic and Medical Entomology (1) S
Lecture, three hours; discussion, one hour. Deals with the insects which are serious pests of agriculture and those groups which constitute important disease vectors of man and domestic animals. Discussion will be concerned with life histories, ecology, and distribution as well as various control strategies, including control by biological, chemical, genetic, behavioral, and physical means. Prerequisite: Biological Sciences 101C.

153 Neurochemistry and Neuropharmacology (1) S
Lecture/discussion, three hours. Introduction to the chemistry and pharmacology of neural tissue with an emphasis on the regulation of neurotransmitter synthesis. Prerequisites: Biological Sciences 101G or consent of instructor.

154 Neurobiology of Sleep and Dreaming (1) W
Lecture/discussion, three hours. Introduction to the neural control and function of sleep and dreaming. Prerequisite: Biological Sciences 15B or 101D.

155 Seminar in Psychobiology (1-1-1) F, W, S
Seminar, three hours. Consideration of selected current research problems concerning neurobiology and behavior. Students will prepare and present papers. Prerequisites: Biological Sciences 101D or 103A-B-C and consent of instructor. May be repeated for credit.

156 Neural Systems (1) W of even years
Lecture/discussion, three hours. Provides example of how modern neuroscience integrates several types of disciplines such as anatomy, physiology, developmental biology, and behavioral biology to develop hypotheses about the operation of particular brain regions. An attempt is made to unify these levels. The course would be most useful to students who have had satellite courses or research experience in neurophysiology or neurochemistry. Prerequisite: Biological Sciences 101D.

157 Animal Behavior (1) W of odd years
Lecture/discussion, three hours. An analysis of the genetic and experimental determinants of animal behavior. Prerequisite: Biological Sciences 101D or 103A-B-C, or consent of instructor.

158 *Learning and Memory* (1) F *of odd years*
Lecture/discussion, three hours. A consideration of basic issues concerning the nature of behavioral plasticity and information storage and their neural substrates. Prerequisite: Biological Sciences 101D or 103A-B-C.

159 Arousal and Attention (1) S of odd years
Lecture/discussion, three hours. A consideration of the behavioral characteristics and neural bases of behavioral arousal and attention. Prerequisite: Biological Sciences 101D or 103A-B-C.

160 General Neurophysiology (1) W
Lecture/discussion, three hours. An introduction to the basic functioning of the nervous system emphasizing systems in the mammalian CNS. Prerequisites: Biological Sciences 101D, one year of calculus, one year of physics.

161 Cellular Neurobiology (1) S of even years
Lecture/discussion, three hours. Introduction to the biophysics and biochemistry of nerve cells emphasizing membrane potentials, conduction and transmission, synaptic chemistry, and information processing. Prerequisite: Biological Sciences 101D.

162 Synaptic Mechanisms (1) F
Lecture/discussion, three hours. New concepts and current literature in the developing areas of synapse function. Prerequisite: Biological Sciences 101D or consent of instructor.

163 Psychoneuroendocrinology (1) F of even years
Lecture/discussion, three hours. Introduction to materials showing that hormones

are involved in neural development and mature function and behavior and that behavior is involved in the control of hormonal secretions. Prerequisite: Biological Sciences 101D.

164 Neuroanatomy (1) S
Lecture/discussion, three hours. Introduction to comparative neuroanatomy emphasizing the mammalian central nervous system. Prerequisite: Biological Sciences 101D.

165 Population Ecology (1) F
Lecture, three hours; laboratory, two hours. Growth and regulation of plant and animal populations, extrinsic and intrinsic factors, competitive and predator/prey interactions, factors in spatial distribution, genetic interactions, computer modeling of population phenomena. Prerequisites: Biological Sciences 101E and one year of calculus.

166 Human Ecology (1) W
Lecture, three hours. Multi-media course. Consideration of demographic features, intrinsic rate of increase, and carrying capacity. Encompasses effects of human populations on their environment, and also of environment on human populations, settlement patterns, and societal evolution. Prerequisite: Biological Sciences 101E or consent of instructor.

167 Field Biology (1) S of odd years
Lecture, three hours; laboratory/field, three hours. A taxonomic survey of selected plant families, including the role of floral biology and agencies of pollination in angiosperm evolution. Each student completes a short research problem. Prerequisites: Biological Sciences 101E and consent of instructor.

168 Vertebrate Biology (1) W
Lecture, three hours; laboratory, three hours. A survey of vertebrate phylogeny, ecology, and natural history. Emphasis will be placed on adaptations of local terrestrial vertebrates to their environment. Prerequisite: Biological Sciences 101E or consent of instructor. Not offered 1973-74.

169 Marine Ecology (1) F
Lecture, three hours. Fundamental concepts of marine ecology. Physical and chemical factors, current systems and water masses, trophic ecology, distributions of organisms, survey of pelagic and benthic communities. Prerequisite: Completion of or concurrent enrollment in Biological Sciences 101E.

170 Processes of Evolution (1) F of odd years
Lecture, three hours; discussion, one hour. Basic concepts of biotic change through natural selection: early evolution, the fossil record, natural selection, sources of variability, expression of variability, chance in evolution, speciation, altruism, coevolution, the ascendency of man. Prerequisite: Biological Sciences 101E.

171 Vegetation and Ecosystem Dynamics (1) F
Lecture, three hours; two weekend field trips. An introduction to major vegetation types of the world and the dynamics of their ecosystems. Particular emphasis on community ecosystem dynamics. Major emphasis will be given to community structure. A research paper is required. Prerequisites: Completion of or concurrent enrollment in Biological Sciences 101E and consent of instructor.

172 Physiological Plant Ecology (1) S
Lecture, three hours; field, three hours. An examination of the functional response of individual plants and plant communities to their environment. A research paper is required. Prerequisites: Biological Sciences 101E and consent of instructor; a course in plant physiology strongly recommended. Not offered 1973-74.

173 Physiological Animal Ecology (1) S
Lecture, three hours; field, three hours. An examination of the functional means by which vertebrates cope with their environments; roles of osmoregulation, thermoregulation, and energy metabolism in the lives of tetrapods. Prerequisites: Biological Sciences 101E and consent of instructor. Not offered 1973-74.

174 Behavioral Ecology (1) W of odd years
Lecture, three hours; laboratory, two hours. Consideration of animal behavior as an evolutionary solution to problems encountered during an animal's life cycle. Includes a broad comparative approach to communication, habitat selection, and food finding. Prerequisite: Consent of instructor.

175 Phycology (1) W
Lecture, three hours; laboratory, two hours; two field trips. A survey of the structure, reproduction, and life histories of freshwater and marine algae. Prerequisite: Biological Sciences 101E or consent of instructor.

176 Phytoplankton Biology (1) S of odd years
Lecture, three hours. Systematics, population ecology, and general physiology of planktonic algae. Prerequisites: Biological Sciences 169 and 175 or consent of instructor.

176L Phytoplankton Biology Laboratory (½) S of odd years
Laboratory, three hours; field, one hour. Identification procedures, use of taxonomic literature, and development of manipulatory skill in evaluating phytoplankton populations. Prerequisite: Concurrent enrollment in or completion of Biological Sciences 176.

177 General Entomology (1) F of odd years
Lecture, three hours; laboratory, five hours; three field trips. Introduction to insect structure, function, development, and classification. Emphasis on natural history, environmental association, and relationships to man. Collection required. Prerequisite: Consent of instructor.

178 Aquatic Productivity (1) F
Lecture, three hours. Primary production in marine, estuarine, and freshwater environments. Productivity is also dealt with at levels of grazers, predators, and decomposers. Methods of measurement and their interpretation are of special concern. Prerequisites: Biological Sciences 169 and 176 or consent of instructor.

179 Limnology and Fresh Water Biology (1) S
Lecture, three hours; discussion, one hour. Biology of freshwater environments: lakes, ponds, rivers, their biota, and the factors which influence distribution of organisms. Prerequisites: Biological Sciences 101E and 101LE and consent of instructor.

180A-B Invertebrate Zoology (1-1) W, S of even years
Lecture, three hours; laboratory, five hours; four field trips. Survey of major invertebrate phyla. Emphasis on comparative morphology, evolution, adaptive physiology, and biology of local marine invertebrates. Prerequisites: Biological Sciences 101B and 101E or consent of instructor.

181 Applied Marine Ecology and **182 Applied Marine Productivity** comprise a two-course package in conjunction with one 199 course and represent a student's full course load. Three 5-day field trips. Prerequisites: Biological Sciences 169 and consent of instructor.

181 Applied Marine Ecology (1½) W of odd years
Lecture, one hour; discussion, one hour; laboratory, six hours; field (see above). Applied and comparative studies of intertidal community structure. Analytical methods used in assessment of standing crops and food web structure. Data collected from warm and cold water areas will be contrasted and presented as final report in manuscript form.

182 Applied Marine Productivity (1½) W of odd years
Lecture, one hour; discussion, one hour; laboratory, six hours; field (see above). Applied and comparative studies of energy budgets and trophodynamics of intertidal population and communities. Application of productivity measurement methods, reduction, interpretation, and reporting of data.

183 Introduction to Geology (1) S
Lecture, eight hours; laboratory/field, six hours. Basic principles of physical and

historical geology. Emphasis on role of geology in present-day scientific frontiers, and on non-renewable natural resources and environmental problems. Prerequisites: Biological Sciences 101E & 101LE or equivalent and consent of instructor.

184 Demographic Modeling Laboratory (½) W
Laboratory, three hours. Introduction to construction of computer models of human populations. No previous experience in programming required; level of modeling undertaken will be related to individual programming capability. Prerequisite: Completion of or concurrent enrollment in Biological Sciences 166.

185 Field Ornithology (1) S of even years
Lecture, two hours; field/laboratory, three hours; two weekend field trips. Field studies and reading from periodical literature. Emphasis on behavior and ecology, although aspects of physiology and taxonomy will be covered. Prerequisite: Consent of instructor.

186 Ecology of Terrestrial Communities (1) S of odd years
Lecture, three hours. Community function, structure, development, and evolution. Predation, competition, symbiosis, species diversity, niche theory, succession, island biogeography, and coevolution. Prerequisite: Biological Sciences 101E and 101LE.

187 Terrestrial Field Ecology (3) S
Lecture, nine hours; laboratory, nine hours; three weeks in field. Offered occasionally as demand and resources permit. A three-course package in conjunction with one 199 – Independent Study course. Integrated studies of terrestrial plants, animals, their environments, and their interactions. Prerequisite: Consent of instructor.

188 Introduction to Insect Physiology (1) W
Lecture, three hours. Physiology of insects. Insect respiration, digestion, excretion, and neurobiology, including sensory systems and effectors. Prerequisite: Upper division.

Seminars, Special Courses, and Independent Study

Seminars

2 Freshman Seminars (¼-¼-¼) F, W, S
Highly recommended for all freshmen. Once a week seminar of a small number of students and a faculty member to discuss a wide variety of relevant biological topics. Prerequisite: Freshman biological sciences majors.

55 Sophomore Seminars (½-½-½) F, W, S
Intensive study of selected topics in experimental biology. Prerequisite: Sophomore biological sciences majors.

190 Junior Seminars (½-½-½) F, W, S
Intensive study of selected topics in experimental biology. Once a week seminar of a small group of students with a faculty member. Prerequisite: Junior biological sciences majors.

Special Courses

97 Education Motivation (1-1-1) F, W, S
Field, four hours. A program in which students develop and deliver special enriched educational programs in biological sciences which are presented in junior and senior high schools. May be repeated once for credit.

98 Special Group Activities F, W, S
Sec. 1 Curriculum (0)
Involves students working with faculty on curriculum improvement.
Sec. 2 Premedical Experience (0)
Involves students' interaction with health sciences professionals.
Sec. 3 Tutoring in Biological Sciences (¼-1)
A program in which students are trained to act as peer tutors and provide tutorial assistance to university undergraduates. May be repeated once for credit.

198 Research Enrichment (1-1-1) F, W, S
Prerequisite: Enrollment in Research Enrichment Program.

Independent Study

199A-B-C Independent Study in Biological Sciences Research (¼-1; ¼-1; ¼-1) F, W, S
Involves individual laboratory research under a professor, and possibility of graduation with honors. Prerequisite: Consent of instructor.

GRADUATE STUDY IN THE SCHOOL OF BIOLOGICAL SCIENCES

Graduate registration is a prerequisite for all 200-299 courses.

The Master of Arts in Teaching is a degree program whose requirements are fulfilled by taking a series of courses (200, 211, 212, 213, 101E) the content of which includes principles of modern biology and contemporary developments in biological sciences, and by the submission of an approved Master's thesis.

department of developmental and cell biology

Developmental and cell biology is concerned with the development, physiology, structure, and function of organisms and their component cells. The Department maintains facilities for research involving biochemistry, genetics, electron microscopy, cell, tissue, and organism culture, microsurgery, and neurophysiology.

Students in the Department of Developmental and Cell Biology are offered a one-year graduate Core program which will consist of a three-quarter sequence in developmental biology, genetics, and cell biology, and/or a three-quarter sequence of organismic physiology. One or both Core sequences may be taken simultaneously with the graduate Cores in the Department of Molecular Biology and Biochemistry. Students are able to diverge from this basic Core into their areas of special interest by means of graduate seminar courses.

The main emphasis of the Developmental and Cell Biology graduate training program is research training in: (1) developmental and cell biology, and (2) comparative physiology of animals and plants. However, since many doctoral students in the Department undertake academic careers, the Department expects each graduate student to participate in a directed teaching experience during his graduate program.

DEVELOPMENTAL AND CELL BIOLOGY FACULTY

Howard A. Schneiderman, *Chairman of the Department:* Developmental biology and insect physiology
Robert K. Josephson, *Vice Chairman of the Department:* Comparative neurophysiology
Joseph Arditti: Physiology of orchids

Ernest A. Ball: Developmental biology of higher plants
Michael W. Berns: Cell organelles and laser microbeams
Hans R. Bode: Developmental biology of coelenterates
Peter J. Bryant: Diploid genetics and development
Susan V. Bryant: Regeneration and vertebrate development
Richard D. Campbell: Developmental biology of invertebrates
Donald E. Fosket: Cell growth and development
Ralph W. Gerard: Physiology and neurophysiology (Professor Emeritus)
Noelle A. Granger: Developmental biology
Gerald A. Greenhouse: Protein synthesis in amphibian embryos
Peter F. Hall: Endocrinology
Patrick L. Healey: Cell biology and developmental cytology (on leave)
Harold Koopowitz: Sensory and invertebrate physiology
Stuart M. Krassner: Parasitology and invertebrate biology
Howard M. Lenhoff: Physiology and developmental biology of marine invertebrates (on leave winter and spring quarters 1974)
Rosevelt L. Pardy: Biology of coelenterates (symbiosis)
Grover C. Stephens: Comparative animal physiology
Stephen H. White: Membrane structure

COURSES IN DEVELOPMENTAL AND CELL BIOLOGY

200A-B-C Research in Developmental and Cell Biology (½-3 per quarter) F, W, S
Individual research under a particular professor. Prerequisite: Consent of instructor.

201A-B-C Developmental and Cell Biology Journal Club (1-1-1) F, W, S
Seminar, two hours. Advanced study in various fields of organismic biology. Prerequisite: Consent of instructor.

202A-B-C Techniques in Developmental and Cell Biology (1¼-1¼-1¼) F, W, S
Lecture, two hours; laboratory, six hours. Techniques in electronmicroscopy, histology, autoradiography, microsurgery, tissue culture, and biochemistry. Biochemistry portion is the same as Molecular Biology 204. Prerequisite: Consent of instructor.

203A-B-C Graduate Tutorial in Developmental and Cell Biology (1-1-1) F, W, S
Advanced study in areas not represented by formal courses. Tutorial may involve individual or small group study through discussion, reading, and composition. Time and subject matter to be arranged individually.

230A-B-C Developmental and Cell Biology Graduate Core

230A Cell Biology (1) F
Lecture, two hours. Structure and function of the cell and its organelles, the relationships between cells and between nucleus and cytoplasm in animals and plants. Prerequisite: Consent of instructor.

230B Genetics (1) W
Seminar, two hours. Basic diploid genetics, cytogenetics, and the control of genic activity in multicellular organisms. Prerequisite: Consent of instructor.

230C Developmental Biology (1) S
Seminar, two hours. Consideration of some major problems such as determination, differentiation, pattern formation, and morphogenesis in plants and animals. Prerequisite: Consent of instructor.

261 Advanced Topics in Plant Physiology (1-1) F, W
Seminar, two hours. Topics will change from year to year. Subjects will be on major problems in plant physiology. Prerequisite: Biological Sciences 134 or consent of instructor.

262 Advanced Topics in Sensory Physiology (1-1-1) F, W, S
Seminar, two hours. Topics will change from year to year. Subjects will be on major problems in sensory physiology. Prerequisite: Consent of instructor.

263 Insect Physiology (1-1-1) F, W, S
Seminar, one hour. Topics will vary from year to year. Prerequisite: Consent of instructor.

264A-B-C Coelenterate Biology (1-1-1) F, W, S
Seminar, two hours. Topics will vary from year to year. Prerequisite: Consent of instructor.

265 Parasitology (1-1-1) F, W, S
Seminar, one hour. Topics will vary from year to year; Prerequisite: Consent of instructor.

266 Comparative Physiology (1) W
Seminar, two hours. Topics will vary from year to year. Prerequisite: Consent of instructor.

267 Morphogenesis of Vascular Plants (1) F
Lecture, three hours. Utilization of current literature, with demonstrations of the origins, micro and ultrastructure, development of the plant. Theoretical considerations of genic and environmental factors. Prerequisite: Biological Sciences 136 or equivalent courses in elementary morphology or anatomy of vascular plants, or consent of instructor.

286A-B-C Advanced Topics in Developmental Biology (1-1-1) F, W, S
Seminar, two hours. Discussion of recent articles in a wide variety of journals dealing with topics of developmental biology. Prerequisite: Consent of instructor.

287 Vertebrate Endocrinology (1) S
Lecture, three hours. Mechanisms by which hormones regulate metabolic and other cellular functions. Primary data upon which current ideas on endocrinology are based. Prerequisites: Physiology and biochemistry.

289A-B-C Regeneration (½-½-½) F, W, S
Seminar, one and one-half hours. Current topics in vertebrate regeneration. Prerequisite: Consent of instructor.

290A-B-C Colloquium in Developmental and Cell Biology (½-½-½) F, W, S
Colloquium, one and one-half hours. Contemporary research problems. Research students, faculty, and other invited speakers introduce research and review topics.

department of molecular biology and biochemistry

Research in the Department is broadly representative of modern molecular biology and focuses on biological problems that can be approached at the molecular level. It includes emphasis on biochemistry, molecular genetics, enzymology, microbiology, immunology, and virology. Subjects in which there is more specific concentration are indicated by the research areas listed below for the faculty members. The Department is well equipped for work that requires preparative and analytical ultracentrifugation, culture of microorganisms and animal cells, radioactivity determination, and other specialized techniques. Graduate students are required to take Molecular Biology and Biochemistry 204 and 205A-B during their first year. Additional course work will reflect their interests within the general field. All students must engage in regular teaching of undergraduates as part of their training.

MOLECULAR BIOLOGY AND BIOCHEMISTRY FACULTY

Robert C. Warner, *Chairman of the Department:* Molecular biology of nucleic acids; physical chemistry of macromolecules

Stuart M. Arfin: Metabolic regulation; enzymatic mechanisms of the pathway and control of the biosynthesis of amino acids
Edward R. Arquilla: Structure-function characteristics and immunology of protein hormones
Jeffrey L. Clark: Hormone action; mechanism of growth stimulation by trophic hormones
Dennis D. Cunningham: Biochemistry of mammalian cell division
Charles N. Gordon: Electron microscopy of biological macromolecules
Gale A. Granger: Immunology, medical microbiology; cell biology
Wesley Hatfield: Molecular mechanisms of biological control systems
Kenneth H. Ibsen: Regulation of energy metabolism; properties of regulatory enzymes
David T. Kingsbury: Genetics of viral pathogenicity
Calvin S. McLaughlin: Biochemical genetics of RNA and protein synthesis
Kivie Moldave: Protein biosynthesis in mammalian tissues
Harris S. Moyed: Regulation of enzyme action and synthesis; mode of action of plant auxins
Dennis Piskiewicz: Protein chemistry; amino acid sequence and catalytic groups of enzymes; enzyme kinetics
Donald J. Raidt: Control of proliferation and differentiation in the immune response
Wendell M. Stanley, Jr.: Structure and function of macromolecules, biosynthesis of macromolecules in mammalian cells
Betsy M. Sutherland: Enzymology of DNA repair
Paul S. Sypherd: Genetic control of ribosomal RNA and protein
Krishna K. Tewari: Nucleic acids of cell organelles
Edward K. Wagner: Animal virology; RNA synthesis
Clifford A. Woolfolk: General microbiology; enzymology
Daniel L. Wulff: Biochemical genetics

COURSES IN MOLECULAR BIOLOGY AND BIOCHEMISTRY

200A-B-C Research in Molecular Biology and Biochemistry (½-3 per quarter) F, W, S
Individual research under a particular professor. See areas of interest under Molecular Biology and Biochemistry Faculty. Prerequisite: Consent of instructor.

201A-B-C Seminar in Molecular Biology and Biochemistry (1-1-1) F, W, S
Seminar, three hours. Content varies. Presentation of research from the departmental laboratories, special recent developments when pertinent. Attendance is required of all graduate students in Molecular Biology and Biochemistry.

203A-B-C Tutorial in Molecular Biology and Biochemistry (1-1-1) F, W, S
Tutorials in the area of the research of a particular professor will relate current research in his laboratory to the literature. Tutorials may be conducted as journal clubs. Prerequisite: Consent of instructor.

204 Biochemical Methodology (1¼) F
Lecture, four hours; laboratory, four hours. Methods employed in molecular biology particularly centrifugation, radioactivity measurement, and fractionation methods. Prerequisite: Biochemistry equivalent to Biological Sciences 101G.

205A-B Biochemistry (1¼-1¼) F, W
Lecture, five hours. Structure and function of proteins and nucleic acids; basic aspects of enzymes as proteins; biosynthesis of macromolecules. Prerequisites: Biological Sciences 101G; organic chemistry.

207 Molecular Genetics (1¼) S
Lecture, five hours. Molecular genetics; coding, control mechanisms in replication, transcription, and translation. Prerequisite: Biochemistry 205B or general background in biochemistry.

214 Biosynthesis of Nucleic Acids (1) S of odd years
Lecture, three hours. Structure, function, and replication of DNA and RNA in procaryotes and eucaryotes; emphasis on current research. Prerequisite: Biological Sciences 101G.

240 Medical Microbiology (2) W
Lecture, nine hours. Biochemical and genetic properties of infectious agents. Humoral and cellular components of immunity. Consult Medical School calendar for date of beginning of this course. Prerequisites: Molecular Biology 205A-B, 207 and consent of instructor.

241 Molecular Mechanisms of Pathogenesis (1) S
Lecture, three hours. Analysis of biochemical and genetic determinants of antibiotic resistance, toxins, hemolysins and other factors associated with virulence. Prerequisites: Molecular Biology 240 and consent of instructor.

242 Cell Regulator Mechanisms (1) S
Lecture, three hours. Control of growth and division in normal and malignant cells, genesis; mechanisms of immune rejection of foreign tissue grafts and malignant cells. Prerequisites: Biological Sciences 101F-G and consent of instructor.

243 Regulatory Mechanisms and Metabolic Diseases (1) S
Lecture, three hours. Relation of regulation mechanisms of gene expression and enzyme activity to problems of disease. Prerequisites: Biological Sciences 101F-G and consent of instructor.

261 Biomolecular Structure (1) F
Lecture, three hours. Structure of proteins as determined both in the solid state and solution. Both diffraction and spectroscopic techniques will be discussed. Prerequisites: Chemistry 130A-B-C, Biological Sciences 123 or Chemistry 131A-B-C. Not offered 1973.

262 Biopolymers in Solution (1) W
Lecture, three hours. Thermodynamics and statistical mechanics of biopolymers; equilibrium and hydrodynamic methods. Techniques such as viscosity, sedimentation, osmotic pressure, and light scattering. Prerequisites: Chemistry 130A-B-C, Biological Sciences 123, or Chemistry 131A-B-C. Not offered 1974.

263 Biochemical Dynamics (1) S
Lecture, three hours. Discussion of enzyme kinetics and multistep kinetics; active sites, factors, and chemistry and biochemistry of co-factors. Prerequisites: Chemistry 130A-B-C, Biological Sciences 123, or Chemistry 131A-B-C.

280A-B-C Advanced Topics in Biochemistry and Molecular Biology (1-1-1) F, W, S
Lecture, three hours. Selected topics in advanced biochemistry and molecular biology. Specific topics and the instructor will be announced in advance. Prerequisite: Consent of instructor; open to advanced undergraduates.

290A-B-C Colloquium in Molecular Biology and Biochemistry (½-½-½) F, W, S
Colloquium, one and one-half hours. Presentation of contemporary research problems in molecular biology and biochemistry and related areas. Lecturers or invited speakers will introduce research and review topics.

department of population and environmental biology

The areas of interest in the Department of Population and Environmental Biology range from the environmental and genetical relations of populations to the structure and functions of ecosystems. Directions of specialization within this area include population dynamics and population genetics, evolu-

tion and adaptation, plant and animal physiology, biogeography and paleoecology, taxonomy and systematics, analysis of plant and animal communities, production ecology, human ecology, and marine ecology. These diverse specializations share a common concern with phenomena at levels of organization above that of the individual organism – the population, community, and ecosystem.

The new ecology requires good preparation in mathematics, statistical methods, computer techniques, and foreign language.

POPULATION AND ENVIRONMENTAL BIOLOGY FACULTY

Richard E. MacMillen, *Chairman of the Department:* Physiological animal ecology
Peter R. Atsatt: Plant ecology and evolution
Arthur S. Boughey: Human ecology
Peter S. Dixon: Phycology
George L. Hunt: Population ecology
Keith E. Justice: Computer simulated models, genetics, and ecology of animal populations
Mark M. Littler: Marine productivity and phytoplankton ecology
Gordon A. Marsh: General entomology
Philip W. Rundel: Physiological plant ecology
Roger R. Seapy: Marine invertebrate ecology

COURSES IN POPULATION AND ENVIRONMENTAL BIOLOGY

200A-B-C Research in Population and Environmental Biology (½-3 per quarter) F, W, S
Individual research under a particular professor. Prerequisite: Consent of instructor.

201 Seminar in Population and Environmental Biology (½) F
One and one-half hours. Introduction to areas of faculty research in population and environmental biology. Required of all entering graduate students.

203A-B-C Graduate Tutorial in Population and Environmental Biology (½-3 per quarter) F, W, S
Advanced study in areas not represented by formal courses. Tutorials may involve individual or small group study through reading, discussion, and composition. Prerequisite: Consent of instructor.

210 Tropical Biology: An Ecological Approach (3-3) W, Summer
Intensive field study and integration of botanical and zoological aspects of tropical environments in Costa Rica, Central America. Preference is given to students in the early stages of their graduate work. Prerequisites: Minimum of four graduate courses in biology, including at least one each in botany, zoology, and general ecology; admission dependent upon acceptance by the Organization for Tropical Studies (O.T.S.) program.

213 Pleistocene Environments (1) W every third year beginning 1975
Lecture, three hours. Review of environmental factors during late Tertiary and Pleistocene times. Surveys of geological, climatological, and biotic features of these environments. Prerequisites: Biological Sciences 166 and consent of instructor.

214 Urban Ecosystems (1) W every third year beginning 1973
Lecture, three hours. Evolution of human settlement patterns and their environmental interactions. Development and fundamental behavioral bases of educational, communication, transportation, recreation, and other systems. Prerequisites: Biological Sciences 166 and consent of instructor.

215 Hominid Evolution (1) W every third year beginning 1974
Lecture, three hours. Evolution of genus Homo from primate origins to appearance of H. sapiens. Includes ancestral primate, hominoid and hominid features, evolution of communication, cooperation, culture, and other social behavioral patterns. Prerequisites: Biological Sciences 166 and consent of instructor.

220 Seminar in Evolution (½-1) W

221 Seminar in Human Ecology (½-1 per quarter) F, W, S

222 Seminar in Phycology (½-1) W

223 Seminar in Population Biology (½-1) W

224 Seminar in Vertebrate Biology (½-1) F

225 Seminar in Plant Ecology (½-1 per quarter) F, W, S

226 Seminar in Marine Ecology (½-1) S of even years

227 Seminar in Population/Community Ecology (½-1) F of odd years

228 Seminar in Phytoplankton Biology (½-1) S of even years

229 Seminar in Terrestrial Community Ecology (½-1) W of even years

264 Topics in Population/Community Ecology (1) W of odd years
Lecture, one hour; seminar, two hours. Foundations and historical development of ideas in population ecology. Modern concepts will be evaluated through seminars and use of periodical literature. Prerequisite: Consent of instructor.

270 Evolutionary Ecology (1) F of even years
Lecture, three hours. Current problems and concepts in the ecology, genetics, and evolution of populations and communities. The genetics of natural selection, group selection, selection in heterogeneous environments, defense against predation, reproductive ecology.

273 Physiological Animal Ecology (1) S of odd years
Lecture, two hours; discussion, one hour; laboratory/field, four hours. Studies of the roles of water, energy, and temperature in the lives of vertebrates. Prerequisite: Consent of instructor. Not offered 1975.

274 Behavioral Ecology (1) W of odd years
Seminar, three hours. Examination of selected topics in behavioral ecology through discussion of current literature and preparation of papers.

286 Ecology and Evolution of Terrestrial Communities (1) S of even years
Lecture, two hours; discussion, one hour. Structure and function of terrestrial biological communities. Physical and biological selection pressures affecting species associations. Prerequisite: Consent of instructor.

290A-B-C Colloquium in Population and Environmental Biology (1/3-1/3-1/3) F, W, S
Colloquium, one and one-half hours. Invited speakers will introduce research and review topics. Prerequisite: Consent of instructor.

department of psychobiology

Psychobiology is concerned with the biological bases of behavior. The focus of study in psychobiology is upon the role of behavior in adaptation and the mechanisms by which this is accomplished. Emphasis is given to problems of the neural, endocrine, biochemical, genetic, and experimental determinants of arousal and attention, sensation and perception, learning, memory, motivation, emotion, and instinctive behavior. A broad comparative approach is taken to these problems.

The primary emphasis of the graduate training program in Psychobiology is on research training. Nonetheless, since most psychobiology doctoral students continue their careers in academic settings, the Department requires each graduate student to participate in a directed teaching experience during each year of his graduate program. This training insures that graduates are experienced and capable teachers as well as scientists.

PSYCHOBIOLOGY FACULTY

James L. McGaugh, *Chairman of the Department:* Learning and memory (on leave 1973-74)
Norman M. Weinberger, *Vice Chairman of the Department:* Neural bases of arousal and attention
Carl Cotman: Neurochemistry, molecular psychology
Roland A. Giolli: Experimental neuroanatomy
Albert Globus: Experimental neuroanatomy and neurophysiology
Robert K. Josephson: Invertebrate neurophysiology
Herbert P. Killackey: Comparative neuroanatomy
Gary S. Lynch: Neural systems
Ernest P. Noble: Human behavior
Arnold Starr: Neural bases of sensory processes
Marcel Verzeano: Neurophysiology
Jack C. Waymire: Neurochemistry, neuropharmacology
Richard E. Whalen: Neural and endocrine bases of behavior
Pauline I. Yahr: Analysis of animal behavior

COURSES IN PSYCHOBIOLOGY

200A-B-C Research in Psychobiology (½-3 per quarter) F, W, S
Individual research under specific professor. Prerequisite: Consent of instructor.

201A-B-C Seminar in Psychobiology (1-1-1) F, W, S
Seminar, three hours. Advanced study of current topics in various areas of psychobiology. Topics will vary from quarter to quarter and from year to year. Prerequisite: Consent of instructor.

202A-B-C Methods in Psychobiology (1-1-1) F, W, S
Lecture, laboratory demonstration, discussion, three hours. Emphasizes classical as well as recent developments in psychobiological research methods and techniques. Prerequisite: Consent of instructor.

Psychobiology Graduate Core 206A-B-C, 207A-B-C, 208A-B-C
An integrated sequence in neurobiology (206A-B, 207A, 208A-B) and behavioral biology (206C, 207B-C, 208C). Required of all first-year graduate students. Admission for other students to 206 and 207 by consent of instructor.

206A-B-C Psychobiology Graduate Core: Lecture

206A Structural Neurobiology (1) F
Lecture, three hours. A comprehensive consideration of the anatomy of the vertebrate nervous system at both the gross and microscopic levels.

206B Systems Neurobiology (1) W
Lecture, three hours. Neuropharmacology, neuroendocrinology and the neurophysiology of sensory, motor, and non-specific systems.

206C Comparative Behavior (1) S
Lecture, three hours. Analysis of the nature and bases of complex animal behavior with particular emphasis on the problem of "instinctive behavior."

207A-B-C Psychobiology Graduate Core: Lecture

207A Molecular Neurobiology (1) F
Lecture, three hours. Structure and function of single neurons, including properties of their membranes, excitation, conduction, and synaptic action.

207B Attentive and Motivational Processes (1) W
Lecture, three hours. Analysis of the structure and function of peripheral and central nervous system processes underlying behavioral attention and motivation. Particular emphasis is given to a critical evaluation of the relationships between brain processes and behavioral stimulus selection, behavioral excitability, feeding, drinking, and agonistic behavior.

207C Learning and Memory (1) S
Lecture, three hours. Consideration of the problems of learning and memory in animals in terms of current research and theory. The problem of the nature of mechanisms involved in memory storage is emphasized.

208A-B-C Psychobiology Graduate Core: Research Methodology and Techniques
Integrated three-quarter sequence.

208A Neuroanatomy and Neurochemistry (1) F
Lecture/laboratory, five hours. Gross and microscopic techniques for analyzing nervous systems, including neurohistology with normal and experimental material. Biochemical techniques for analysis of brain tissue, including separation and identification of cellular constituents.

208B Neurophysiology (1) W
Lecture/laboratory, five hours. Electrophysiological techniques for analyzing the central nervous system. Instruction in the use of single unit, multiple unit, gross evoked potential, and electroencephalographic recordings in classical preparations and chronically prepared animals.

208C Behavioral Biology (1) S
Lecture/laboratory, five hours. Methods for describing and analyzing behavior of organisms, including species-specific behaviors. Assessment of learning and memory in animals, including the use of pharmacological agents.

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240 Advanced Analysis of Learning and Memory (1) F of odd years
Lecture/seminar, three hours. Advanced analysis of contemporary research concerning the nature and neurobiological bases of learning and memory. Special emphasis is given to time-dependent processes involved in memory storage.

241 Advanced Analysis of Hormones and Behavior (1) W of even years
Lecture/seminar, three hours. Relationships which exist between endocrine secretions, the brain, and behavior. The biology of reproduction will be covered in detail as will the role of hormones in development stress and social behavior.

242 Advanced Neurophysiology (1) W of odd years
Lecture/seminar, three hours. Study of the electrical activity of neuronal networks of cortical and sub-cortical structures as they relate to brain function.

243 Advanced Analysis of Comparative Neurology (1) S of odd years
Lecture/seminar, three hours. Consideration of the evolution of the vertebrate nervous system emphasizing contemporary experimental approaches to selected systems.

244 Advanced Neurochemistry (1) W of odd years
Lecture/seminar, three hours. Integrated survey of the chemical and physiological mechanisms of synaptic transmission. Selected topics include growth and modification of synaptic connections from a chemical viewpoint.

245 Advanced Biochemical Neuropharmacology (1) S of odd years
Lecture/seminar, three hours. Study of molecular mechanisms of action of drugs affecting central nervous system. Basic mechanisms by which drugs alter synthesis, storage uptake, release, and catabolism of neural transmitters will be emphasized.

246 Advanced Analysis of Attentive Processes (1) F of even years
Lecture/seminar, three hours. Consideration of behavioral and neural aspects of attention. Examination of the concept of "attention" from a behavioral point of view and classical and current approaches to brain mechanisms which form the substrates of behavioral attention.

247 Advanced Integrative Neurobiology (1) W of odd years
Lecture/seminar, three hours. Consideration of selected topics in neurobiology in which multidisciplinary approaches have been used to analyze function.

248 Advanced Analysis in Neuroanatomy (1) W of odd years
Lecture/seminar, three hours. Consideration of anatomical-histological organization of the somatosensory, auditory, and visual systems of vertebrates.

249 Advanced Fine Neuroanatomy (1) S of odd years
Lecture/seminar, three hours. Critical review of neuroanatomical methods used to elucidate morphological dependence of neurons. Validity of experimental data pertinent to our understanding of synaptic site, function, and surrounding structures will be evaluated by means of review of classical and recent articles in electronmicroscopal and histological literature.

251 Analysis of Neurology of Auditory Behavior (1) F of even years
Lecture/seminar, three hours. Analyzation of basic processes in hearing using information from neurophysiology, neuroanatomy, behavioral and clinical material.

252 Advanced Analysis of Animal Behavior (1) W of odd years
Lecture/seminar, three hours. Considerations of the nature and bases of animal behavior.

***260 Seminar in Learning and Memory** (1/3-1/3-1/3) F, W, S

***261 Seminar in Hormones and Behavior** (1/3-1/3-1/3) F, W, S

***262 Seminar in Neural Networks** (1/3-1/3-1/3) F, W, S

***263 Seminar in Comparative Neurology** (1/3-1/3-1/3) F, W, S

***264 Seminar in Neurochemistry** (1/3-1/3-1/3) F, W, S

***265 Seminar in Neuropharmacology** (1/3-1/3-1/3) F, W, S

***266 Seminar in Arousal and Attention** (1/3-1/3-1/3) F, W, S

***267 Seminar in Behavioral Excitability** (1/3-1/3-1/3) F, W, S

***268 Seminar in Neuroanatomy** (1/3-1/3-1/3) F, W, S

***269 Seminar in Fine Neuroanatomy** (1/3-1/3-1/3) F, W, S

***270 Seminar in Neuroendocrinology** (1/3-1/3-1/3) F, W, S

***271 Seminar in Auditory Neurophysiology** (1/3-1/3-1/3) F, W, S

***272 Seminar in Neurophysiology Behavior** (1/3-1/3-1/3) F, W, S

***273 Seminar in Comparative Behavior** (1/3-1/3-1/3) F, W, S

290A-B-C Colloquium in Psychobiology (½-½-½) F, W, S
One and one-half hours. Presentation of contemporary research problems in psychobiology and related areas by invited speakers. Prerequisite: Graduate enrollment in the Department of Psychobiology.

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*By consent of instructor.

school of fine arts

Clayton Garrison
Dean

The primary activity of the School of Fine Arts is creating and performing works of art in an atmosphere in which the creative process is central. We are committed to the creative act: to making and performing. A program based on such a commitment requires a faculty experienced in the creative process. The faculty in the School of Fine Arts is comprised primarily of permanent artists-in-residence. Studio courses in all areas are taught by eminent faculty who have earned their living professionally and who continue to maintain professional assignments and commitments.

In addition to the permanent artists-in-residence faculty, visiting artists have and will always comprise about one-third of the staff, providing a constant inflow of ideas and personalities. A variety of artists challenges the student's sensibilities and encourages him to think and to create freshly and freely.

This ideology focused on the creative process, the professional and scholar-performer faculty, and the individual's commitment and courage provides, we feel, an ideal condition for the serious student in the arts who wants to be painting, sculpturing, dancing, acting, singing, directing, choreographing, writing, or playing an instrument six to ten hours a day during the most sensitive and formative years of his life. Our central concern is the development of a creative talent in an atmosphere saturated with creativity.

Although the primary concerns of the School of Fine Arts in the past have centered on studio and performance activity, new programs are developing in the history of the arts, as well as interdisciplinary programs between the School of Fine Arts and the School of Humanities.

Departmental majors are offered in History of Art, Studio Art, Dance, Drama, and Music. Departmental requirements include extensive studio and workshop experiences, essential theoretical and historical backgrounds, and exercises in criticism. The requirements for all performing and studio majors in the fine arts are designed to provide opportunities for the student-artist to work creatively at his medium for at least four hours a day from the freshman year through graduation. Introductory courses in film writing and film making are also available in the Drama Department.

In addition to producing student concerts, musicals, and dramatic performanances, the School of Fine Arts in collaboration with UCI's Committee for Arts and Lectures presents a varied offering of cultural events each year, including distinguished lecturers, world-renowned concert artists, outstanding dance and drama groups, jazz and folk performers, a film series, and a gallery program.

The School of Fine Arts is organized as a School with areas of instruction and production, not with formal departments. The faculty generally meets as a whole one or two times a year. The faculty in each of the major areas of instruction (art history, studio art, dance, drama, music) nominates five students to the Dean's Student Advisory Council. The Dean selects two undergraduates and one graduate student from each area. These fifteen students comprise the Dean's Student Advisory Council for a term of one year. The Council meets about six times a year. This council reviews matters concerning appointments and promotions, curriculum, appropriations, policy on graduate admissions, productions and concerts, and community relations. There is no difference between undergraduate and graduate participation. The students act as an ad hoc review committee on all permanent appointments and on all recommendations for merit increases and promotions. Students in the School of Fine Arts are involved at a less formal level as participants, organizers, and coordinators throughout the year in the various productional units, including the University Chorus, University Orchestra, University Theatre, Student Exhibitions, Graduate Art Gallery, Dance Concerts, Friday One O'Clock Concerts, Dance Workshop, Drama Workshop, Music Workshop, and Film Production.

All new students are assigned, or they may choose their own, faculty advisors and are encouraged to meet with them during new student orientation week and periodically throughout the year to plan programs of study and to discuss educational and career objectives. In addition, students are invited to make use of the counseling services in the School of Fine Arts Office for assistance with programs, requirements, or any academic matter.

Degrees Offered in the School

Art (Art History; Studio) ..... B.A.
Dance ..... B.A.
Drama ..... B.A.
Music ..... B.A.
Fine Arts ..... M.F.A.

Students who have distinguished themselves academically and who have made substantial contributions in performances or exhibitions will be considered for honors at graduation. In keeping with the Academic Senate Resolution, no more than 12% of the graduating seniors may receive honors.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: None (see under departments).

GRADUATE PROGRAM

The School of Fine Arts offers programs leading to the degree of Master of Fine Arts with programs in Studio Art, Dance, Drama, and Music. The primary activity of the School of Fine Arts is performance – the creative act. Research activities are concerned with illuminating performance and inspiring the studio experience. The intellectual activity of theoretical, literary, and historical courses complements the practical work in studio workshops and performance. The aim of the program is, thus, to produce literate artists who are responsive to intellectual stimuli, who are capable of integrating

knowledge into creative acts, and who are disciplined to the point of freedom. It is the strong belief of the School that intellectual integrity and professional excellence cannot exist without each other.

Admission to the Program

Although the campus deadline for applications to be filed for the fall quarter is July 1, the quota of graduate students admitted to the School of Fine Arts is usually filled by March 1. Students are, therefore, advised to make application and to arrange for submission of portfolios, auditions, compositions, dossiers, and interviews by February 1. Students are not admitted to the program during the winter or spring quarters; no program is offered during the summer session. Students applying for scholarships and fellowships should do so through the Graduate Division not later than February 1 for the following year. The School of Fine Arts has a modest number of Teaching Assistantships available in all areas, and all candidates are automatically reviewed for Teaching Assistantship positions; the School informs successful candidates by May 1 for the following academic year.

Upon admission to the program the student will be assigned an advisor in his specific area. He should discuss with this advisor the scope of his undergraduate preparation to determine any areas which may need strengthening if the student is to derive full benefit from graduate study. The advisor should also be consulted by the student upon the best temporal arrangement of his program, and upon the nature of his qualifying and final projects.

history of art

The program in the history of art is designed to provide a comprehensive study of art as a humanistic discipline. The program is concerned with understanding the function and characteristics of the monuments of civilization. Artists' intentions and achievements are studied in their historical settings. Students majoring in the history of art should select appropriate courses in classics, history, literature, and philosophy, as well as in other areas of the fine arts. All majors in the history of art are encouraged to study French, German, and Italian.

Requirements for the Bachelor's Degree

University Requirements. See page 31.

School Requirements: None.

Departmental Requirements

Art History Major: One years survey in history of art (Art 40A-B-C); nine upper-division courses in art history, with at least one course in each of the following areas: Ancient (Art 100, 100N, 101, 102), Medieval (Art 103, 103N), Renaissance (Art 104, 104N, 105, 105N), Baroque (Art 106, 106N, 107), and Modern (Art 108, 108N, 109, 109N, 110N, 128, 129); three courses in Fine Arts outside the departmental major (these courses may be taken on Pass/Not Pass basis).

HISTORY OF ART FACULTY

Clayton Garrison, Ph.D. Stanford University, *Professor and Acting Chairman of Art History*
George Bauer, Ph.D. Princeton University, *Assistant Professor of Art History*
Linda Bauer, Ph.D. Institute of Fine Arts, New York University, *Assistant Professor of Art History*
Hara Georgiou, Ph.D. Bryn Mawr, *Assistant Professor of Art History*
Phil Leider, M.A. University of Nebraska, *Lecturer in Art History*
Beverly O'Neill, Ph.D. University of California, Los Angeles, *Assistant Professor of Art History*

LOWER-DIVISION COURSES IN HISTORY OF ART

See page 5 for explanatory notes on course listings.

20 Nature of Art (1)

40A-B-C History of Art (1-1-1) F, W, S

46 The Nature of Architecture (1)

UPPER-DIVISION COURSES IN HISTORY OF ART

Courses in the following 100-109 sequence will include such topics as: The Arts of Crete and Early Greece, Roman Architecture, Early Christian and Byzantine Art, Gothic Architecture, Italian Renaissance Sculpture, Baroque Painting, The Rococo, Impressionism, and 20th-Century Painting.

The topics within a given area will vary from quarter to quarter; hence if the topic varies each course may be repeated for credit. Art 40A-B-C *is prerequisite.*

100 Studies in Ancient Art (1)

101 Studies in Greek Art (1)

102 Studies in Roman Art (1)

103 Studies in Medieval Art (1)

104 Studies in Southern Renaissance Art (1)

105 Studies in Northern Renaissance Art (1)

106 Studies in Baroque Art (1)

107 Studies in 18th-Century Art (1)

108 Studies in 19th-Century Art (1)

109 Studies in 20th-Century Art (1)

110 Studies in American Art (1)

111 Studies in Primitive Art (1)

112 Studies in Oriental Art (1)

Art 40A-B-C is not prerequisite for the following 100N sequence courses:

100N Ancient Art (1)

103N Medieval Art (1)

104N Italian Renaissance (1)

105N Northern Renaissance (1)

106N Baroque (1)

107N 18th-Century Art (1)

108N 19th-Century Art (1)

109N 20th-Century Art (1)

110N 20th-Century Architecture (1)

112N Oriental Art (1)

127 History of Design (1)

128 Art and Technology (1)

129 New American Art (1)

140 Criticism of Art (1)
May be repeated for credit.

All advanced problems, special studies, and tutorial courses may be repeated for credit.

195 Art Museum Problems (1)

196 Tutorial in Art History (1)

198 Proseminar in Art History (1)

GRADUATE COURSES IN HISTORY OF ART

All graduate courses may be repeated for credit.

200 Bibliography and Research (1)

220 Seminar in Art History (1)

240 Graduate Projects (1)

250 Directed Reading (1)

260 Thesis (1)

studio art

The program in studio art provides basic studio experiences in the fundamental knowledge and techniques of drawing, painting, sculpture, ceramics, and graphic arts, and a study of the history and criticism of art. The curriculum constantly relates studio practice to the development of the visual arts and current critical theory. It aims to develop a sense of visual awareness by as wide a range of the study of art as possible. The student majoring in art experiences the creative aspects of art by learning to think with the materials and techniques of his medium. The aim of the program in the visual arts is to enable the student to apply himself to any visual situation rather than to apply prelearned techniques or a rigid intellectual pattern.

Requirements for the Bachelor's Degree

University Requirements. See page 31.

School Requirements: None.

Departmental Requirements

Studio Major: One years work in visual fundamentals (Art 30A-B-C); one years survey in history of art (Art 40A-B-C); two courses in modern art (Art 108, 109, 109N, 129); six upper-division studio courses (Art 145 through 194); two additional upper-division studio or art history and criticism

courses; three courses in Fine Arts outside the departmental major (these courses may be taken on Pass/Not Pass basis).

Master of Fine Arts Program

Degree Offered

M.F.A. in painting, sculpture, ceramics, graphic arts.

Admission

Applicants for admission to the degree program must:

(a) meet the general requirements for admission to graduate status.

(b) hold a B.A. or B.F.A. in Art.

(c) submit a portfolio of their creative work.

General Degree Requirements

(a) Residence: normally two years. Each candidate must enroll for three courses each quarter for six quarters, exclusive of summer sessions.

(b) The student's progress and body of work will be reviewed by a faculty committee, normally after three quarters in residence. A satisfactory opinion by this committee will allow the student to progress to candidacy for the degree.

(c) Demonstration of degree calibre by a specific creative project. This project is to be supported by a written paper of about twenty pages. The project and paper are to be defended in a one-hour oral examination which may also test the candidate's general knowledge in the area in which his project falls.

Specific Degree Requirements

Completion with grade of not less than B of 72 quarter units of graduate or approved upper-division undergraduate courses. Not more than 20 units of undergraduate courses may count towards the degree. The 72 units will normally be made up in the following manner:

First Year: 3 seminars in problems of contemporary art (Art 230); 3 courses in graduate projects; 3 courses in graduate problems.

Second Year: 3 seminars in problems of contemporary art (Art 230); 3 courses in graduate projects; 3 courses in graduate problems.

STUDIO ART FACULTY

Ed Bereal, Chouinard Art Institute, *Lecturer in Art*
Vija Celmins, M.F.A. University of California, Los Angeles, *Assistant Professor of Art*
Tony DeLap, San Francisco Academy of Art, *Associate Professor of Art*
Harold Glicksman, B.A. University of California, Los Angeles, *Lecturer in Art and Director of Gallery*
John Paul Jones, M.F.A. University of Iowa, *Associate Professor of Art*
Craig Kauffman, M.F.A. University of California, Los Angeles, *Assistant Professor of Art*
John Mason, Chouinard Art Institute, *Associate Professor of Art*

LOWER-DIVISION COURSES IN STUDIO ART

See page 5 for explanatory notes on course listings.

30A-B-C Visual Arts Fundamentals (1-1-1) F, W, S

30A Fundamentals of drawing and pictorial structure (1) F

30B Theory of color and two-dimensional design (1) W

30C Three-dimensional design (1) S

50A-B-C Drawing (1-1-1) F, W, S

60A-B-C Painting (1-1-1) F, W, S

70A-B-C Sculpture (1-1-1) F, W, S

80A-B-C Graphic Arts (1-1-1) F, W, S

86A-B-C Ceramics (1-1-1) F, W, S

UPPER-DIVISION COURSES IN STUDIO ART

All advanced problems, special studies, and tutorial courses may be repeated for credit.

145 Advanced Problems in Design (1)
Prerequisites: Art 30A-B-C.

150 Advanced Problems in Drawing (1)
Prerequisites: Art 30A-B-C and 50A-B-C.

160 Advanced Problems in Painting (1)
Prerequisites: Art 30A-B-C and 60A-B-C

170 Advanced Problems in Sculpture (1)
Prerequisites: Art 30A-B-C and 70A-B-C

180 Problems in Graphic Art (1)

185 Design and Typography (1)

186 Advanced Problems in Ceramics (1)
Prerequisites: Art 30A-B-C and 86A-B-C.

190 Studio Problems (1)

191 Studio in Drawing (1)

192 Studio in Painting (1)

193 Studio in Sculpture (1)

194 Studio in Graphic Arts (1)

GRADUATE COURSES IN STUDIO ART

All graduate courses may be repeated for credit.

210 Graduate Studio: Painting (1)

211 Graduate Studio: Sculpture (1)

212 Graduate Studio: Ceramics (1)

214 Graduate Studio: Graphic Arts (1)

215 Graduate Studio: Problems (1)

230 Seminar in Problems of Contemporary Art (1)

240 Graduate Projects (1)

250 Directed Reading (1)

260 Thesis (1)

dance

The program in dance provides basic studio experiences in the fundamental knowledge and techniques of classical ballet and of contemporary dance movements. The classical academic approach to ballet adheres to those principles developed from Noverre through Petipa and Cecchetti modified to accommodate our current understanding of those laws of physics and of the human anatomy applicable to the study of dance. The workshops in contemporary dance explore and extend the various approaches to modern dance and jazz, concentrating on physiological and rhythmic problems encountered in contemporary choreography. Studies in pre-classic dance forms and their musical structures provide additional workshop experiences as well as significant research materials for choreographic problems. Theoretical and historical courses complement the practical work in workshops, choreography, and performance. The program is designed for students preparing to continue professionally as dancers, as choreographers, and as teachers, as well as for students who, while not planning to make the study of dance their vocation, have a serious interest in the theory, practice, and history of dance.

The traditional technique of classical ballet constitutes a craft and style that serves not only as a physiological center for the logical training of the body, but also as a basic language of movement for the choreographer. Workshop experiences build progressively on the basic techniques of ballet and extend through the contemporary idioms of jazz, modern, and freestyle. The aim is to develop kinetic resources, precision, flexibility, and freedom in an eloquently coordinated and intelligently responsive body.

Requirements for the Bachelor's Degree

University Requirements: See page 5.

School Requirements: None.

Departmental Prerequisites

Basic ability in techniques of ballet and freestyle dance forms is prerequisite to declaring a major in dance. All students who desire to declare a major in dance must audition. All freshmen and advanced standing applicants to the University who have indicated an interest in majoring in dance will be notified by the department of dance of the date of audition, the successful completion of which is the authorization to declare a major in dance.

Inasmuch as the level of performance is generally determined by the length of time in study, all transfer students must anticipate meeting the total performance requirements for the B.A. degree. Students deficient in level of performance in comparison to their level of study should plan to extend their studies in order to meet performance requirements.

Departmental Requirements

Performing Major: Four years studio work in ballet (Dance 30A-B-C, 35A-B-C, 130A-B-C, 135A-B-C); three years studio work in freestyle (Dance 40A-B-C, 45A-B-C, and 140 for three quarters); two years studio work in jazz (Dance 50A-B-C, 55A-B-C); one years work in theory (Dance 20A-B-C); one years work in music for dancers (Dance 120A-B-C); one course in dance

notation (Dance 65A); three courses in history of world dance (Dance 110A-B-C); three courses in choreography (Dance 155A-B-C); two courses in acting (Drama 30A-B); participation in dance performance.

Teaching, Criticism, or Choreography Major: Three years studio work in ballet (Dance 30A-B-C, 35A-B-C, 130A-B-C); two years studio work in freestyle (Dance 40A-B-C, 45A-B-C); one years studio work in jazz (Dance 50A-B-C); one years work in theory (Dance 20A-B-C); one years work in music for dancers (Dance 120A-B-C); three courses in history of world dance (Dance 110A-B-C); three courses in dance notation (Dance 65A-B-C); three courses in choreography (Dance 155A-B-C); two courses in acting (Drama 30A-B); participation in dance performance.

Master of Fine Arts Program

Degree Offered

M.F.A. in choreography and in the teaching of dance.

Admission

Applicants for admission to the degree program must:

(a) meet the general requirements for admission to graduate status.

(b) hold a B.A. or B.F.A. in Dance. Candidates must meet the minimum requirements for the B.A. degree from the Irvine campus of the University of California.

(c) provide proof by personal audition, or submission of a film of their work, of their practical ability in ballet, freestyle, and jazz dance forms.

General Degree Requirements

(a) Residence: normally two years. Each candidate must enroll for three courses each quarter for six quarters, exclusive of summer sessions.

(b) Demonstration, normally after three quarters in residence, of satisfactory progress by the presentation of a choreographic project. Acceptable completion of this project will allow the student to progress to candidacy for the degree.

(c) Demonstration of degree calibre by a major production thesis: in choreography this would be the composition and production of a choreographic work; in teaching this would be a practical and comprehensive project concerned with the teaching of dance. Either the production thesis or the teaching project must be supported by a written paper of about twenty pages. The production or project and supporting paper are to be defended in a one-hour oral examination which may also test the candidate's general knowledge in his area.
OR
Preparation of a written thesis of about seventy-five pages in a chosen area of research. This thesis is to be defended in a one-hour oral examination which may also test the candidate's general knowledge in his area.

(d) Candidates presenting a written research thesis are required to demonstrate a reading knowledge of French. Subject to faculty approval this knowledge may be demonstrated by: Educational Testing Service Foreign Language Test; an examination administered by the faculty; or satisfactory completion of a course at a specified level.

Specific Degree Requirements

Completion with grade of not less than B of 72 quarter units of graduate or approved upper-division undergraduate courses. Not more than 20 units of undergraduate courses may count toward the degree. The 72 units will normally be made up in the following manner:

Choreography: 6 courses in graduate choreography; 5 studio courses from ballet, freestyle, and jazz; 3 seminars in theory and history; 4 electives (one elective may be used for preparation of final project).

Teaching: 3 courses in the teaching of dance; 3 courses in choreography; 3 seminars in theory and history; 5 studio courses from ballet, freestyle, and jazz; 1 course in teaching of notation; 3 electives (one elective may be used for preparation of final project).

DANCE FACULTY

Eugene Loring, *Professor of Dance and Chairman of Dance*
Donald Bradburn, *Lecturer in Dance*
Roy Fitzell, *Lecturer in Dance*
El Gabriel, *Visiting Lecturer in Dance*
Jack Kauflin, *Lecturer in Dance*
Olga Maynard, *Lecturer in Fine Arts*
James Penrod, B.A. University of Southern California, *Associate Professor of Dance*
Janice Gudde Plastino, Ph.D. University of Southern California, *Assistant Professor of Dance*
Barbara Plunk, *Lecturer in Dance*
Antony Tudor, *Visiting Lecturer in Dance*

LOWER-DIVISION COURSES IN DANCE

See page 5 for explanatory notes on course listings.

20A-B-C Theories of Dance (1-1-1)
Open only to students enrolled in workshop courses.

30A-B-C Studio Workshop in Ballet I (½-½-½)

35A-B-C Studio Workshop in Ballet II (½-½-½)
Prerequisites: Dance 30A-B-C (Ballet I).

40A-B-C Studio Workshop in Freestyle I (½-½-½)

45A-B-C Studio Workshop in Freestyle II (½-½-½)
Prerequisites: Dance 40A-B-C (Freestyle I).

50A-B-C Studio Workshop in Jazz I (½-½-½)
Prerequisites: Dance 40A-B-C.

55A-B-C Studio Workshop in Jazz II (½-½-½)
Prerequisites: Dance 50A-B-C (Jazz I).

65A-B-C Dance Notation (1-1-1)
Prerequisite: One years work in a studio workshop course.

UPPER-DIVISION COURSES IN DANCE

110A-B-C History of World Dance (Prehistoric to Contemporary) (1-1-1)
Offered alternate years with Dance 112A-B-C.

112A-B-C History of Theatre Dance (Renaissance Ballet to Contemporary) (1-1-1)
Offered alternate years with Dance 110A-B-C.

120A-B-C Music for Dancers (1-1-1)
Offered alternate years.

125 Criticism of Dance (1)
May be repeated for credit.

130A-B-C Advanced Studio Workshop in Ballet III (½-½-½)
Prerequisites: Dance 35A-B-C (Ballet II).

135A-B-C Advanced Studio Workshop in Ballet IV (½-½-½)
Prerequisites: Dance 130A-B-C (Ballet III).

140 Advanced Studio Workshop in Freestyle (½)
May be repeated for credit. Prerequisites: Dance 45A-B-C (Freestyle II).

150 Advanced Studio Workshop in Jazz (½)
May be repeated for credit. Prerequisites: Dance 55A-B-C (Jazz II).

155A-B-C Choreography I (1-1-1)

160 Dance Performance (1)
May be repeated for credit.

170 Ethnic Dance of Eastern Cultures (½)
May be repeated for credit.

175 Ethnic Dance of Western Cultures (½)
May be repeated for credit.

180A-B-C Choreography II (1-1-1)

185A-B-C Choreography III (1-1-1)

190 Studio Tutorial in Ballet (½)
May be repeated for credit. Prerequisites: Dance 130A-B-C (Ballet III).

191 Studio Tutorial in Freestyle (½)
May be repeated for credit. Prerequisite: Dance 140 (Advanced Studio Workshop in Freestyle).

192 Studio Tutorial in Jazz (½)
May be repeated for credit. Prerequisite: Dance 150 (Advanced Studio Workshop in Jazz).

193 Studio Tutorial in Choreography (1)
May be repeated for credit. Prerequisites: Dance 185A-B-C (Choreography III).

194 Tutorial in History of Dance (1)
May be repeated for credit. Prerequisites: Dance 110A-B-C, 120A-B-C, 180A-B-C.

195 Tutorial in Dance Notation (1)
May be repeated for credit.

198 Dance Workshop (1)
May be repeated for credit.

GRADUATE COURSES IN DANCE

All graduate courses may be repeated for credit.

200 Bibliography and Research (1)

210 Graduate Studio: Ballet (½)

211 Graduate Studio: Freestyle (½)

212 Graduate Studio: Jazz (½)

213 Graduate Studio: Choreography (1)

220 Seminar in Dance History (1)

230 Seminar in Theories of Dance (1)

231 Seminar in the Teaching of Dance (1)
240 Graduate Projects (1)
250 Directed Reading (1)
260 Thesis (1)

drama

The program leading to the Bachelor of Arts in drama provides the professional training and the liberal study essential to attaining the highest standards in theatre. Each major in drama experiences exacting and rigorous training in the mutually interrelated areas of the theatre: performance, design, literature, history, and criticism. The curriculum constantly relates studio practice, technical resources, and productional techniques to the development of dramatic literature and current critical theory. The student specializes during the last two years of study in acting, directing, scene design, costume design, or criticism. Majors in drama are expected to undertake extensive studies in art, dance, and music.

The continuous production of plays, musicals, operettas, and operas constitutes the major activity of the department. Students are treated as members of a theatrical organization, and they acquire experiences in all phases of theatrical production in a professionally disciplined atmosphere. Dramatic production centers on an exhaustive analysis of the script and on the challenge of communicating the complexities of the plan to an audience in a unified and meaningful production.

The program is designed for students preparing to continue professionally as actors, directors, designers, critics, and teachers, as well as for students who, while not planning to make the study of theatre their vocation, have a serious interest in the literature, theory, and practice of drama.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: None.

Departmental Requirements

One years survey in the development of dramatic literature (Drama 40A-B-C); one year in acting (Drama 30A-B-C); one year in design (Drama 100A-B-C); two upper-division courses in dramatic literature (103, 104, 117, 140, 141, 142, 143); six upper-division courses in addition to the two in dramatic literature mentioned above (these may be in studio work and/or in dramatic literature, playwriting, film writing, and criticism); three courses in Fine Arts outside the departmental major, including two consecutive quarters (which are equivalent to one course) in dance (these courses may be taken on Pass/Not Pass); participation (acting or technical) in at least one major University Theatre production a year (Drama 160).

Master of Fine Arts Program

Degree Offered

M.F.A. in acting, directing, design.

Admission

Applicants for admission to the degree program must:

(a) meet the general requirements for admission to graduate status;

(b) hold a B.A. or B.F.A. in Drama;

(c) submit by April 1 a dossier of biographical information and theatrical experience to the School of Fine Arts. This dossier must include:

(1) for directing candidates, a resume of directing (and related) experience, photographs and reviews of productions directed, if available, and an analysis of a play you desire to direct, indicating your directorial approach.

(2) for design candidates, a portfolio of design and photographs and reviews of executed designs, if available.

(3) for acting candidates, a resume of acting (and related) experience, and photographs and reviews of acting performance; auditions will be scheduled when feasible.

General Degree Requirements

(a) Residence: normally two years. Each candidate must enroll for three courses each quarter for six quarters, exclusive of summer sessions.

(b) Demonstration of familiarity with an assigned list of books and plays on which the candidate will be examined during his second year of residence.

(c) Demonstration of degree calibre by a major production thesis, i.e., perform a major role, direct or design a major production. This thesis is to be supported by a written paper of about twenty pages or, if a director, a complete prompt book which includes a full analysis of the director's intentions. The production thesis and paper are to be defended in a one-hour oral examination which may also test the candidate's general knowledge in the area of his specialization.

(d) Attainment of a 3.15 G.P.A. during the first year of residence.

(e) Participation in productions at UCI throughout residence.

Specific Degree Requirements

Completion with grade of not less than B of 72 quarter units of graduate or approved upper-division undergraduate courses. Not more than 20 units of undergraduate courses may count towards the degree. The 72 units will normally be made up in the following manner:

Acting: 6 courses of graduate acting; 1 course in directing; 3 seminars in dramatic literature; 3 courses in advanced University Theatre; 1 course graduate projects; 1 course thesis preparation; 3 electives.

Directing: 5 courses of graduate directing; 1 course in acting; 1 course advanced design; 3 courses advanced University Theatre; 3 seminars in dramatic literature; 1 course graduate projects; 1 course thesis preparation; 3 electives.

Design: 6 courses of graduate design; 1 course in directing; 3 seminars in dramatic literature; 3 courses advanced University Theatre; 1 course graduate projects; 1 course thesis preparation; 3 electives.

DRAMA FACULTY

Clayton Garrison, Ph.D. Stanford University, *Professor of Drama and Acting Chairman of Drama*

Gary Belshe, M.A. University of Missouri, *Lecturer in Drama*
Ian Bernard, *Lecturer in Drama*
Ashley Carr, M.F.A. Yale University, *Assistant Professor of Drama*
Peter Church, *Lecturer in Drama*
Robert S. Cohen, D.F.A. Yale University, *Associate Professor of Drama*
John Elliott, M.A. California State University, Long Beach, *Production Manager*
Cameron Harvey, M.F.A. University of California, Irvine, *Assistant Professor of Drama*
Brewster Mason, Royal Shakespeare Company, *Visiting Lecturer in Drama*
David McDonald, Ph.D. Stanford University, *Assistant Professor of Drama*
Charles Tomlinson, University of London, *Assistant Professor of Drama*
Richard Triplett, Otis Art Institute, *Associate Professor of Drama*

LOWER-DIVISION COURSES IN DRAMA

See page 5 for explanatory notes on course listings.

20 The Nature of Drama: Structure and Style (1)

25 Shakespeare (1)

30A-B-C Acting (1-1-1)

30A Movement, Improvisation, Theatre Games

30B Characterization and Scenes

30C Performance Technique

32 Playwriting (1)
Same as English Wr 32.

40A-B-C Development of Drama (1)
Same as Comparative Literature 40.

40A Greek Drama through Shakespeare

40B Restoration Drama through Ibsen

40C Contemporary Drama

UPPER-DIVISION COURSES IN DRAMA

100A-B-C Design for Theatre (1-1-1)

100A Costume Design

100B Scene Design

100C Lighting Design

103 Lectures in Dramatic Literature (1)
May be repeated, provided topic changes. Courses include Medieval and Tudor Drama, Elizabethan and Jacobean Drama, Shakespeare, Restoration and Eighteenth-Century Drama, Modern British Drama, Modern American Drama, Tragedy, and Comedy. Same as English 103.

104 Greek Drama (1)
May be repeated, provided topic changes.

105A-B-C Technical Production (1-1-1)

105A Costume

105B Scenery

105C Lighting

106 Make-up (1)

109 History of Film
Same as Art 109. May be repeated for credit, provided topic changes.

112 Advanced Playwriting (1)
Same as English Wr 112. May be repeated for credit. Prerequisite: Drama 32.

114 Film Writing (1)
May be repeated for credit.

115A-B-C Film Making (1-1-1)
Prerequisite: Interview with instructor.

116 Film Criticism (1)
May be repeated for credit, provided topic changes.

117 Russian Stage and Film Drama
Same as Russian 155.

120A-B History of Design in Theatre (1-1)

130 Advanced Acting (1)
May be repeated for credit. Prerequisites: Drama 30A-B-C and audition.

132A-B-C Speech for the Theatre (1-1-1)

140 Contemporary American Drama (1)

141 Contemporary British Drama (1)

142 Contemporary Continental Drama: Theatre of the Absurd (1)

143 Realism and Revolt: Ibsen to O'Neill (1)

151 Advanced Theatre Design (1)
May be repeated for credit.

152 Advanced Lighting Design (1)
May be repeated for credit.

154 Costuming for the Theatre (1)
May be repeated for credit.

155 Advanced Costume Design for Theatre (1)
May be repeated for credit.

160 University Theatre (1)
May be repeated for credit.

165 Music Theatre Workshop (1)
May be repeated for credit.

166 History of Operetta and Musical Theatre (1)

170 Directing (1)
May be repeated for credit.

171 Acting-Directing Workshop (1)
May be repeated for credit.

173 Theatre Orchestra (1)
Same as Music 173. May be repeated for credit.

175 Staging Shakespeare (1)
May be repeated for credit.

180 Dramatic Criticism (1)
May be repeated for credit.

182 History of Dramatic Criticism (1)

185 Advanced Directing (1)
May be repeated for credit.

186 Projects in Film Making (1)
May be repeated for credit. Prerequisites: Drama 115A-B-C and permission of instructor.

The following courses may be repeated for credit:

190 Studio in Acting (1)
191 Studio in Directing (1)
194 Criticism (1)
195 Studio in Production (1)
197 Dramatic Literature (1)
198 Drama Workshop (1)

GRADUATE COURSES IN DRAMA

All graduate courses may be repeated for credit.

200 Bibliography and Research (1)
210 Graduate Studio: Acting (1)
211 Graduate Studio: Directing (1)
212 Graduate Studio: Playwriting (1)
213 Graduate Studio: Design (1)
214 Graduate Studio: Film Writing (1)
215 Graduate Studio: Film Making (1)
220 Seminar in Dramatic Literature (1)
221 Seminar in Criticism (1)
222 Seminar in Theatre History (1)
230 Seminar in Contemporary Theatre (1)
240 Graduate Projects (1)
250 Directed Reading (1)
260 Thesis (1)

music

The program for the Bachelor's Degree with a major in music is designed for two main classes of students: those who wish to obtain a sound background in music leading to a terminal degree and those who wish to obtain a thorough preparation for undertaking graduate work in one or more of four broad fields: musicology, composition, music performance, and teaching. The program provides intensive training in three mutually dependent areas as related components of a total musical experience: performance and musicianship, the theory of music, and the history of music. A knowledge of all three of these areas is indispensable and minimal for a successful career in music.

Beyond the specific goals outlined above and the requirements listed below, the student in music, through cooperative programs undertaken in conjunction with the other arts, achieves an awareness of the relationship of music to those other arts and of the various roles of music in society, both past and present.

Entrance Requirements

At the commencement of the student's freshman year he will be given an entrance examination to determine whether he meets the requirements of the Department as stated below. After two years, the faculty will meet as a

jury to determine whether the student is making sufficient progress to qualify him as an upper-division music major. All transfer students are required to audition for the music faculty and receive permission before declaring themselves as music majors.

Voice Majors

Recommend at least two years private study and/or participation in choral or orchestral ensemble and facility at the keyboard. Background in Italian, French, and German art songs is recommended.

Piano Majors

The requirements for an entering piano major are that the candidate should have mastered a Haydn or Mozart sonata, a two-part invention of Bach, and all the major and minor scales and arpeggios.

Woodwinds

Sustained tone production, precise intonation over a dynamic range from *pianissimo* to *fortissimo,* control of breath, tongue, and double and triple tongue attacks over the entire range of the instrument, all major and minor scales and arpeggios *legato* and *staccato* commensurate with the range and technique of the instrument, are required. The student should be able to play and read a repertoire of a difficulty comparable to the earlier symphonies of Haydn, Mozart, Beethoven, and Schubert, and should demonstrate knowledge of the sonata literature for his particular instrument.

Brass

Essentially the same requirements as for woodwinds.

Percussion

Mastery of rudimentary drum techniques and a knowledge of the piano comparable to grade three is required.

Strings

Clear tone production, precise intonation with and without vibrato, controlled vibrato, slurred, *detache, loure, staccato,* and simple *spiccato* bow strokes, knowledge of all major and minor scales and arpeggios is highly desirable. The student should also be able to satisfy the same general repertoire requirements listed above under woodwinds.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: None.

Departmental Requirements (General)

Entering majors are expected to have competence in the practice of music — in reading and performing. At the end of the sophomore year, the faculty will meet as a jury to determine whether the student is making sufficient progress to qualify as an upper-division major.

All transfer students must take placement examinations. Basic to the program for all majors is command of piano: the performance at sight of moderately difficult works. Students must demonstrate this skill, by examination, no later than the end of the first quarter of the junior year.

Performance requirements include private study – vocal or instrumental, a senior recital, and participation in the chorus or various music ensembles during each quarter of the student's four years.

Departmental Requirements (Specific)

Two years work in theory (Music 30A-B-C, 130A-B-C); two years work in musicianship (Music 5A-B-C, 15A-B-C; Music 5A-B-C to be taken concurrently with 30A-B-C and Music 15A-B-C to be taken concurrently with 130A-B-C); one years work in history and literature of music to be preceded by Music 30A-B-C (Music 40A-B-C); one years work in counterpoint (Music 135A-B-C); one years work in form and analysis (Music 155A-B-C); three upper-division courses in history and criticism of music (Music 140 through 145, 152A-B-C); three courses in Fine Arts outside the departmental major (these courses may be taken on Pass/Not Pass); command of piano; a senior recital. All music majors who are studying an orchestra or band instrument, or the piano, are required to enroll in Instrumental Ensemble each quarter of residence. All music majors studying voice are required to enroll in Chorus (Music 162) and Vocal Performance (Music 163) each quarter of residence.

Master of Fine Arts Program

Degree Offered

M.F.A. in composition, voice, choral conducting, or musicology.

Admission

Applicants for admission to the degree program must:

(a) meet the general requirements for admission to graduate status. The Graduate Record Examination is not required, although an applicant may submit the results of it if he so wishes.

(b) hold a B.A. or a B.M. in Music, or the equivalent.

(c) submit a composition or audition (or present a recorded demonstration of performance) if applying for the program in composition or in performance. Applicants must also submit an 8-10 page paper on a musical subject (analytical, theoretical, historical); this requirement may be fulfilled by the submission of an undergraduate term paper.

(d) be tested by an examination in their knowledge of basic musical tools: ear training, sight-singing, written and keyboard harmony, dictation, score reading, and minimal facility at the piano (including sight-reading). Applicants must submit proof of at least two years college study of at least one of the following languages: French, German, Italian.

General Degree Requirements

(a) Residence: normally, two years. Each candidate must enroll for three courses each quarter for six quarters, exclusive of summer sessions.

(b) Comprehensive examination: normally undertaken after 3-4 quarters in residence. Passing these examinations allows the student to progress to candidacy for the M.F.A. A student failing these examinations may reschedule them once in the following quarter.

(c) Demonstration by a written examination (administered by the music faculty) of a reading knowledge of two languages other than English (French, Italian, German, Latin). Reading knowledge of one of these languages must be demonstrated by written examination before the candidate may schedule his comprehensive examination (see above, under b).

(d) Participation in performance at UCI throughout residence.

Specific Degree Requirements

Completion with grade of not less than B of 72 quarter units of graduate level courses, or approved upper-division undergraduate courses. The latter, when taken by a graduate student at UCI and not exceeding twenty quarter units, may count towards the M.F.A. degree.

The following programs are now offered:

Composition: 2 courses in bibliography; 2 seminars in history; 2 courses in elementary composition; 2 courses in intermediate composition; 2 courses in advanced composition; 3 courses in graduate projects; 5 electives; preparation of a project in composition, supported by a written essay of about twenty pages.

Voice or Choral Conducting: 2 courses in bibliography; 2 tutorials (1st year); 2 courses in diction and performance; 2 seminars in vocal literature; 1 tutorial (2nd year); 1 course in diction and preparation; 2 courses in thesis preparation; 3 courses in graduate projects; 4 electives; preparation of a project in performance, supported by a written essay of about twenty pages.

Musicology: 2 courses in bibliography; 1 course in notation; 5 seminars in history; 2 courses in thesis preparation; 2 courses in directed reading; 1 course in graduate projects; 5 electives; preparation of an essay (thesis) of about seventy-five pages in an area of musical research.

MUSIC FACULTY

H. Colin Slim, Ph.D. Harvard University, *Professor of Music and Chairman of Music* (On leave 1973-74)
Maurice Allard, D.M.A. University of Southern California, *Associate Professor of Music and Conductor of the University Chorus*
Charles Atkinson, Ph.D. University of North Carolina, *Assistant Professor of Music*
Nancy Bramlage Ewing, B. Mus. Eastman School of Music, *Lecturer in Music*
William Holmes, Ph.D. Columbia University, *Professor of Music and Acting Chairman of Music*
Newell Jenkins, B. Mus. Yale University, Conductor of Clarion Concerts New York City, *Visiting Lecturer in Music*
Arnold Juda, Music-Lyceum Amsterdam, *Lecturer in Music*
Margaret Murata, Ph.D. University of Chicago, *Assistant Professor of Music*
Peter Odegard, Ph.D. University of California, Berkeley, *Associate Professor of Music and Conductor of the University Orchestra*
Michael Sanders, M. Mus. University of Southern California, *Lecturer in Music*

A professional tutorial staff in vocal and instrumental music supplements the staff.

LOWER-DIVISION COURSES IN MUSIC

See page 5 for explanatory notes on course listings.

5A-B-C Musicianship I (½-½-½)
To be taken concurrently with Music 30A-B-C.

10 Basic Piano (½)
For music majors only. May be repeated for credit.

15A-B-C Musicianship II (½-½-½)
To be taken concurrently with Music 130A-B-C.

20 Nature of Music (1)

30A-B-C Theory (1-1-1)
To be taken concurrently with 5A-B-C.

40A-B-C History and Literature of Music (1-1-1)
Prerequisite for Music Majors only: Music 30A-B-C.

40A Medieval and Renaissance

40B Baroque and Classical

40C Romantic and Contemporary

50A-B-C Composition (1-1-1)

65 Literature for Keyboard (½)

66 Literature for String Instruments (½)

67 Literature for Wind Instruments (½)

68 Vocal Literature (½)
To be taken concurrently with Music 162.

UPPER-DIVISION COURSES IN MUSIC

130A-B-C Theory II (1-1-1)
To be taken concurrently with Music 15A-B-C.

135A-B-C Counterpoint (1-1-1)
Offered alternate years with Music 155A-B-C.

138A-B-C Fugue (1-1-1)

Courses in the following 140-145 sequence are for music majors and will include such topics as: The Motet in the 13th and 14th Centuries, Renaissance Keyboard Music, The Cantatas of Bach, the 18th-Century Symphony, Early Romantic Opera, Schoenberg, Bartok, and Stravinsky. The topics will vary from quarter to quarter; hence if the topic varies each course may be repeated for credit.

140 Studies in Medieval Music (1)

141 Studies in Renaissance Music (1)

142 Studies in Music of the Baroque Period (1)

143 Studies in Music of the Classical Period (1)

144 Studies in Music of the Romantic Period (1)

145 Studies in Music of the 20th Century (1)

150 Advanced Composition (1)
May be repeated for credit.

152A-B-C History of Opera (1-1-1)

155A-B-C Form and Analysis (1-1-1)
Offered alternate years with Music 135A-B-C.

All courses in the 160-169 sequence may be repeated for credit.

160 Instrumental Ensemble (1)
University Orchestra, Wind Ensemble, Brass Ensemble, and Chamber Ensemble

162 University Chorus (½)
To be taken concurrently with Music 68 or 168.

163 Vocal Performance (½)
(By audition only.) Music 162 must be taken concurrently.

164 Opera Workshop (½)

165 Advanced Literature for Keyboard (½)

166 Advanced Literature for String Instruments (½)

167 Advanced Literature for Wind Instruments (½)

168 Advanced Vocal Literature (½)

169 Conducting (1)

170 Orchestration (1)

171 Chamber Singers (½)

172 Chamber Orchestra (½)

173 Theatre Orchestra (1)

180 Music Criticism (1)

190 Studio Tutorials in Music (½)
Piano, strings, winds, voice, conducting.

191 Tutorial in Music (1)
May be repeated for credit.

198 Music Workshop (1)
May be repeated for credit.

GRADUATE COURSES IN MUSIC

All graduate courses may be repeated for credit.

200 Bibliography and Research (1)

210 Graduate Studio: Vocal Literature (1)

211 Graduate Studio: Instrumental Literature (1)

212 Graduate Studio: Composition (1)

220 Seminar in History of Music (1)

230 Seminar in Contemporary Music (1)

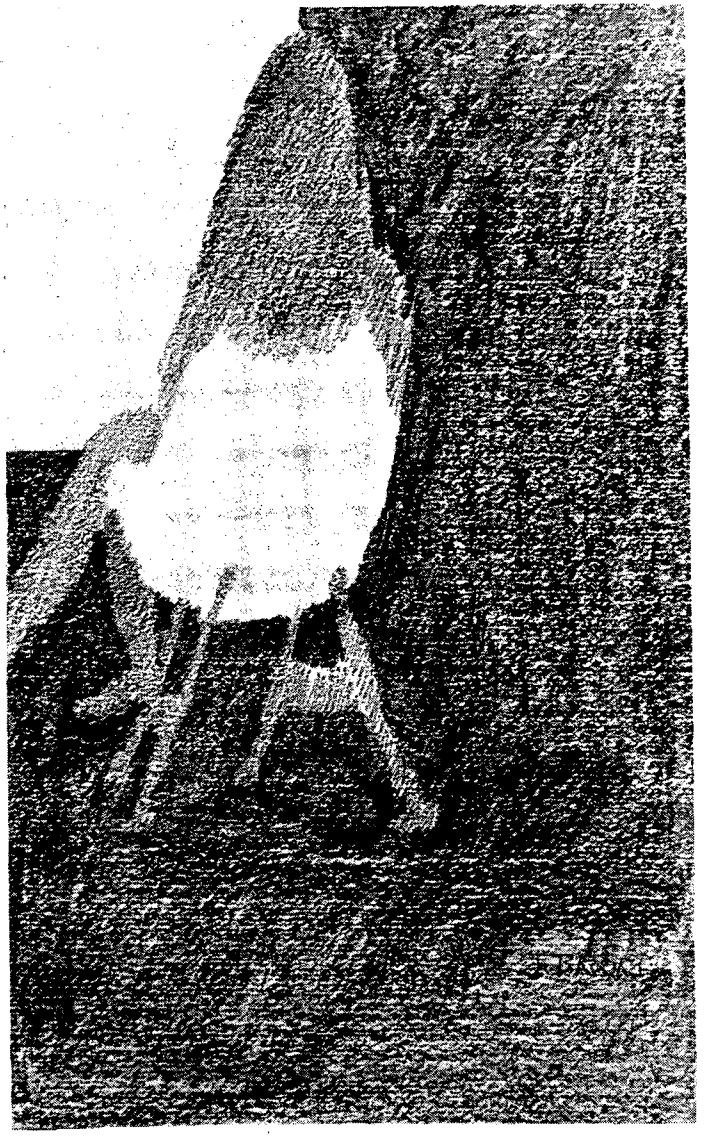
240 Graduate Projects (1)

250 Directed Reading (1)

260 Thesis (1)

COURSES IN FINE ARTS

20A-B-C The Arts and Man (1-1-1)
Major accomplishments of man in art, dance, drama, and music.



Jeanette Brooks, art major

UC IRVINE - 1973-1974

school of humanities

William J. Lillyman
Dean

Harvey Gross, *Associate Dean for Graduate Study*
Guy J. Sircello, *Associate Dean for Undergraduate Study*

UNDERGRADUATE PROGRAMS

The School offers undergraduate majors in classics, classical civilization, comparative literature, English, French, German, history, humanities, linguistics, philosophy, Russian, and Spanish. It offers elementary courses in Hebrew, Italian, and elementary and upper-division courses in Portuguese. Elementary Chinese is offered in cooperation with Comparative Culture.

Students with degrees in the various majors offered by the School proceed to graduate study in numerous fields including business, law, education, and medicine, as well as directly into a great variety of professions.

A corps of lower-division advisors is designed to meet the special needs of freshmen and sophomores. The advisors are particularly interested in undergraduate education and especially knowledgeable about University regulations, requirements in and outside the School, course content, options to major, and other matters that may present difficulties. Students in the School do not elect majors until the last quarter of the sophomore year, at which time each student is assigned an advisor in the major chosen. Until that time the lower-division advisor is prepared to help the student keep options to major open as long as possible, plan a coherent program of humanistic study, and reach an eventual decision about the major.

Each major in the School sets certain requirements. Generally each major offers a year's course which is both an introduction to the discipline and a prerequisite to the major itself. Students who plan wisely with their advisors will construct programs that include a good number of such courses.

Undergraduate students in the School of Humanities participate in the affairs of the School in a number of ways: by serving on committees of various departments, by sitting with the faculty in its meetings, and by serving on the student undergraduate advisory committee, which directly advises the Dean.

Requirements for a Bachelor of Arts Degree

University Requirements: See page 31.

School Requirements

Humanities 1A-B-C, taken in the freshman year (transfer students may substitute appropriate course work in composition, history, humanities and/or philosophy for the Core course by permission: apply in the Dean's Office);

Two years of work in a single acceptable foreign language (through 2C) or equivalent competence;

Quarterly consultation with an assigned lower-division advisor and his written approval for the program of study decided upon. Consultation should be made by the second week of each quarter.

GRADUATE PROGRAMS

The School offers a wide program of graduate degrees. Although the Master's Degree is offered in most departments, the programs emphasize the Ph.D. and give preference in admission to those students who intend to take that degree. An exception is the two-year Master of Fine Arts in creative writing.

In addition to the seminars offered by the various departments, the School sponsors a number of interdisciplinary seminars annually. These courses are taught jointly by faculty members from various departments. Further, several departments offer a few students the opportunity to do part of their work for the Ph.D. in a related discipline.

A limited number of students are accepted annually to study for the secondary and primary teaching credential. This program is a cooperative effort by the School and the Office of Teacher Education (see p. 309).

Graduate students in the School of Humanities participate in the affairs of the School in a number of ways: by serving on committees of the various departments, by sitting with the faculty in its meetings, and by serving on the student graduate advisory committee, which directly advises the Dean.

Degrees Offered in the School

Classics	B.A., Ph.D.
Classical Civilization	B.A.
Comparative Literature	B.A., M.A., Ph.D.
English	B.A., M.A., M.F.A., Ph.D.
French	B.A., M.A., Ph.D.
German	B.A., M.A., Ph.D.
History	B.A., M.A., Ph.D.
Humanities	B.A.
Linguistics	B.A.
Philosophy	B.A., M.A., Ph.D.
Russian	B.A.
Spanish	B.A., M.A., Ph.D.

Undergraduate Honors

Students are nominated for honors on the basis of scholarship, research, and special achievements. Generally, to be nominated the student must achieve a grade-point average of at least 3.20, perform with distinction on such comprehensive examinations as are given in the major, and receive strong recommendation from faculty members. A minimum of two years attendance is also a usual criterion for honors at graduation.

UNDERGRADUATE MAJOR IN HUMANITIES

The major in Humanities accommodates students who want to organize their undergraduate education around some special interest in a topic, a field, or a problem which is interdisciplinary in scope. At the end of his sophomore year the student, in consultation with the Humanities Major Committee, will devise an individually tailored set of "course requirements," not all of which need be offered in the Humanities School. The Committee will assign him an advisor on the basis of the student's own preference. At the end of his senior year the student will prepare under the advisor's supervision a long paper in the area of his special major. Inquiries by third-quarter sophomores should be addressed to Guy Sircello, Associate Professor of Philosophy, Chairman of Humanities Major Committee.

UNDERGRADUATE COURSES IN HUMANITIES

See page 5 for explanatory notes on course listings.

Humanities 1A-B-C The Humanities Core Course (2-2-2) F, W, S
A two-credit year-long sequence required of all Humanities majors and to be taken in the freshman year.

From year to year different problems of mutual concern to the various humanistic disciplines are taken up, with emphasis placed on the careful reading of certain major texts which bear on these problems and on the development of the ability to think clearly and write well about the issues they raise. A writing program is an integral part of the course.

Humanities 101A-B-C (1-1-1), may be repeated when subject changes.
The undergraduate humanities colloquia. Offered in various subjects of an interdisciplinary nature, generally for juniors. Not offered 1973-74.

Humanities 197 (varying credit) F, W, S
Individually arranged field study.

Humanities 198 (varying credit) F, W, S
Directed group study on special topics.

Humanities 199 (varying credit) F, W, S
Directed research for senior Humanities majors.

GRADUATE COURSES IN HUMANITIES

Graduate courses in Humanities are under the direction of the School's Associate Dean for Graduate Study.

These courses are designed for all graduate students in the School of Humanities, with the exception that students in philosophy may not count Humanities 230 as part of their degree program.

Humanities 200, 210, 220, and 230 introduce study in four disciplinary areas, either to students planning a degree in history or one of the literature departments or to those seeking familiarity with disciplines other than their own.

Some students may offer an interdisciplinary modification of their degrees with permission of the departments or programs concerned. Such students will take half or more of their courses in a major field, with the remainder in other fields and in Humanities. At least one of the courses outside the major field will be in the Humanities series 200-230 and another will be a course

listed as Humanities 291. Those interested in an interdisciplinary degree should contact the Associate Dean for Graduate Study or the Graduate Advisor in their major department.

Humanities 200 The Nature and Theory of History (1) F
An introduction to various approaches to historical inquiry. The course deals with speculative and critical history, as well as analytical history. (Same as History 200A.)

Humanities 210 Topics and Methods in Linguistics (1) W
A study of linguistic theories and methods of language description, linguistic structure, language change, typology of grammars, theories of meaning. For the student unfamiliar with the basic principles of linguistics. (Formerly offered under Humanities 291.)

Humanities 220 Literary Theory (1) F
An introduction to the role of criticism and aesthetics in literary study for beginning graduate students. Readings from Continental, English, and American theorists. (Same as CR 220A.)

Humanities 230 Philosophical Analysis (1) S
An introduction to the fundamentals of philosophical analysis through the application of techniques to selected problems in the various "fields" of philosophy: ethics, philosophy of science, political philosophy, aesthetics, philosophy of religion.

Humanities 291 (1) F, W, S
Under this number the School offers a group of seminars and colloquia in interdisciplinary topics or in topics in a particular discipline that are designed for study by students in other disciplines.

Humanities 399 Seminar in Interdisciplinary Teaching (1) F, W, S

department of classics

UNDERGRADUATE PROGRAMS

The Department of Classics aims to provide for the undergraduate student an exposure to the origins and heritage of western civilization. The Department is committed to a twofold purpose: (1) to transmit the culture, ideals, and attitudes of classical civilization through the Greek and Roman languages and literatures and (2) through courses in classical literature in translation, civilization, mythology, and religion to help students appreciate the vast and pervasive influence of Greece and Rome on our own civilization. The Department offers both a major in Classics with either an emphasis in Greek, Latin, or Linguistics and a major in Classical Civilization. Students are encouraged to consult with the Classics faculty regarding the appropriate choice of major and design of program.

For the Classics major, the basis of studying the Classics must be competency in both of the classical languages. The Classics program is designed to provide the student with this competency as rapidly as possible, so that by the end of the first year he has already been introduced to some of the major classical authors in the original. From then on, the student is concerned with analyzing, interpreting, and appreciating the literatures of ancient Greece and Rome and will devote himself to the theories and techniques of literary and textual criticism. In addition, he will obtain a rich background in such ancillary disciplines as ancient history, archaeology, classical art, drama, philosophy, and religion.

The major in Classical Civilization was designed for those students who have no plans to pursue graduate studies in the classical languages, yet wish to obtain an undergraduate degree based on a sound exposure to the classical world. The nucleus of this major consists of one year's study (or its equivalent) in either classical language, and a minimum of eight courses in English translation (five of which are given by the Department) concerning such topics as classical literature, civilization, history, archaeology, art, and drama.

The student planning to major in Classics or Classical Civilization should obtain a copy of the pamphlet "The Classics" and/or "Major in Classical Civilization" from the Department office.

Students entering UCI with previous Greek or Latin training will be given advanced standing as follows: In general, one year of high school work is equated with one quarter of UCI work. Thus, students with one, two, three, and four years of high school Latin will enroll in Latin 1B, 1C, 2A, and 2B respectively. Exceptions to this ruling can be made but must have the approval of the Department Chairman. Students with high school training in the classical languages are encouraged to consult with the Classics staff before enrolling in Classics courses.

The Department adheres to the policy of giving its students an opportunity to participate fully in the departmental decision-making process. Two student representatives, elected from and by the undergraduate majors, participate in all departmental meetings. They are responsible for maintaining close liaison with their constituency, for representing the students' interest in curriculum and personnel matters, and for the evaluation of both the academic program and the academic staff.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: See page 143.

Departmental Requirements

Two separate majors: Classics (with an emphasis in either Greek, Latin, or Linguistics) and Classical Civilization.

Classics (Greek emphasis): Greek 2A-B-C; three literature courses on the Greek 100 level; Greek 110; Latin 1A-B-C; Latin 2A-B-C.

Classics (Latin emphasis): Latin 2A-B-C; three literature courses on the Latin 100 level; Latin 110; Greek 1A-B-C; Greek 2A-B-C.

Classics (Linguistics emphasis): Two possible plans of study. *Greek concentration* — Greek 100A-B-C; Greek 110; Latin 2A-B-C; Linguistics 50, 101, 102, 103 (Greek 120 recommended), or *Latin concentration* — Latin 100A-B-C; Latin 110; Greek 2A-B-C; Linguistics 50, 101, 102, 103 (Latin 120 recommended).

Classical Civilization: Latin (or Greek) 1A-B-C; Classics 151, 152, 153; at least one each from the Classics 160 and 170 series; three additional courses in classical history, classical philosophy, classical art, or classical civilization approved by the Classics Department.

Planning a Program of Study

The Department believes in close consultation with students on academic advising, program planning, and discussion of goals and direction. Students planning to major in Classics or Classical Civilization are strongly urged to consult with the departmental faculty at the earliest possible moment, in order to familiarize themselves with the nature of the various programs.

Career Opportunities

The Classics major may lead to a career in high school teaching, or, after appropriate graduate study, at the college and university levels. The major is prepared for admission to graduate study in classics, comparative literature, linguistics, ancient history, or, with additional course work, archaeology.

But it is not the essential purpose of a major program in Classics, and especially Classical Civilization, to provide specific vocational skills. The study of Greek, Latin, and classical civilization is primarily a valuable component of a liberal education. A knowledge of Greek and Roman literature, history, religion, philosophy, and science provides a proper foundation for the investigation and appreciation of all aspects of modern civilization.

Nevertheless, the student who chooses to major in Classics or Classical Civilization has the choice of many professional opportunities. Graduate and professional schools in law, medicine, or business welcome students with training in the Classics. In many sectors of the business world, corporations prefer to train prospective managers and executives according to their own special methods and needs. These businesses are well acquainted with the value of a person who has chosen to study classics as an undergraduate. In a world of rapid industrial growth and in which highly specialized skills rapidly become obsolete because of changes in technology, the student with a strong background in a respected liberal arts major such as classics offers the diversity, flexibility, precision, and ability to learn which employers in business, government, and industry find attractive.

More specific career information is contained in the publication "Careers for Classicists" available from the Department.

GRADUATE PROGRAM

The Classics Ph.D. program is based upon the belief that close and constant individual attention to a student offers greater and more extensive educational opportunities than classroom instruction.

Under the program, a number of graduate students equal to the number of faculty members of professorial rank are admitted, each of whom is assigned to a single faculty member. This faculty member acts as the student's "preceptor" for the four years of the graduate program. The preceptor is responsible for the development and progress of his student in three areas: comprehensive knowledge of the discipline, research competence, and teaching ability. Through frequent conference, he maintains constant control over the student's progress, provides assistance in the solving of problems, and responds to the student's needs as they arise. In addition he involves his student with other faculty members in the Department for varying periods of time, dependent upon the nature of particular research problems and the areas of specialization of the faculty.

Students admitted to the program are expected to work directly toward the degree Doctor of Philosophy in Classics. Although the program provides for the Master of Arts in Classics, this degree is awarded only on a terminal basis to a student unable to meet the demands of the program. Generally, the student is expected to complete the Ph.D. program in four years; completion of the doctoral dissertation will be a prerequisite for leaving residence.

There are no formal course requirements for the Ph.D. in Classics. However, the Department offers a single seminar, Classics 220, designed to accommodate varying themes and projects which involve all graduate students enrolled in the program as well as faculty outside of the Department, guest lecturers, and visiting professors temporarily affiliated with the Department.

Upon entering the program, each student is provided with a reading list of both primary and secondary materials. While this reading list requires of each student thorough familiarity with Classical literature, history, art, philosophy, and science, it is designed on an individual basis to provide for particular interests and predispositions in approaching the field of Classics. Under constant guidance from the preceptor, the student is expected to assimilate the prescribed materials on this reading list within a period of three years.

At the end of each year in residence, the student is required to pass a written examination designed to evaluate both his progress with the reading list and his development in his particular areas of interest and specialization. By the beginning of the second year, he is expected to pass reading examinations in two modern foreign languages (ordinarily, French and German). At the end of the third year in residence, the student is expected to pass oral qualifying examinations which cover comprehensively the entire field of Classics, but which also take into account the student's individual interests.

Beyond the annual examinations, the students enrolled in the program are evaluated monthly, based on progress dossiers containing copies of the student's written work, reports by the preceptor as well as the seminar instructor, and statements by temporary faculty supervisors. The entire Classics faculty acting as an evaluation committee makes appropriate comment and recommendation. For purposes of maintaining official university records, grades are recorded for the student's performance in the seminars in which he enrolls.

A doctoral dissertation is required of all Ph.D. candidates. Normally, the student writes the dissertation under close supervision of his preceptor, although the entire Department of Classics faculty constitutes the dissertation committee responsible for accepting or rejecting the dissertation. Upon completion of the dissertation, the student is required to submit to an oral dissertation defense.

THESAURUS LINGUAE GRAECAE PROJECT

Financed through private funds, a major research project aimed at creating a *Thesaurus Linguae Graecae (TLG)* was established at the University of California, Irvine in the summer of 1972. This project has as its goal the creation of a computer based data bank of Greek literature from its inception to approximately the mid-6th century A.D., as well as the semasiological evaluation and interpretation of the materials in question.

While a separate entity administratively, the *TLG* is closely related to the Department of Classics in many other respects. Faculty members of the Department are involved, to varying degrees, in *TLG* research; Classics graduate students are given the opportunity to qualify for *TLG* Assistantships; UCI's library and research resources in Classics are immeasurably enhanced by the text and reference holdings acquired for the purposes of the *TLG* Project; *TLG* related conferences of both national and international scope provide the Department with an opportunity for constant communication with classicists at other universities and research centers; and periodic visits by individual scholars on a research appointment basis offer UCI's Classics faculty and students continuous contact with a wide range of specializations within their discipline. It can be anticipated that, ultimately, the establishment and availability of a documentation center pertinent to ancient Greek literary and documentary materials will make the Department a focus of research activity in the field of Classics.

CLASSICS FACULTY

Lewis A. Sussman, Ph.D. University of North Carolina, *Assistant Professor of Classics and Chairman of the Department*

Luci Berkowitz, Ph.D. The Ohio State University, *Associate Professor of Classics*

Theodore F. Brunner, Ph.D. Stanford University, *Associate Professor of Classics and Director, Thesaurus Linguae Graecae Project*

Peter Colaclides, Ph.D. University of Athens, *Professor of Classics*

Richard I. Frank, Ph.D. University of California, Berkeley, *Associate Professor of Classics and History*

Barbara Gold, M.A. University of North Carolina, *Acting Assistant Professor of Classics*

Ronald F. Kotrc, Ph.D. University of Washington, *Assistant Professor of Classics and Assistant Vice Chancellor for Academic Planning – Academic Affairs*

Robert M. McClure, Ph.D. University of California, Los Angeles, *Assistant Professor of Classics*

Bruno Snell, D. Litt. Leeds, Ph.D. Aarhus, *Visiting Professor of Classics*

David R. Thomason, M.A., M. Phil. University of London, *Acting Assistant Professor of Classics and Comparative Literature*

Kenneth R. Walters, Ph.D. Princeton University, *Acting Assistant Professor of Classics*

UNDERGRADUATE COURSES IN CLASSICS

See page 5 for explanatory notes on course listings.

Greek 1A-B-C Fundamentals of Greek (1-1-1) F, W, S
The elements of Classical Greek grammar and syntax, with selected readings. 1C is devoted to selected readings from Greek authors.

Greek 2A-B-C Intermediate Greek (1-1-1) F, W, S
Readings from Greek authors. 2A: Plato; 2B: Herodotus; 2C: Homer. Prerequisite: Greek 1C or equivalent.

Greek 20A-B-C Intensive Greek (1-1-1) Summer
Offered in summer session only, this course series covers, in eight weeks, the equivalent of Greek 1A-B-C.

Greek 99 Special Studies in Greek (1) F, W, S
May be repeated. Prerequisite: Consent of instructor.

Greek 100 Seminar in Greek Literature (1) F, W, S
Subject matter will vary from year to year. 1973-74: 100A, Plato; 100B, lyric poets; 100C, Lysias. Course may be repeated for credit. Prerequisite: Greek 2C or equivalent.

Greek 110 Greek Prose Composition (1)
Prerequisite: Greek 2A or equivalent. Not offered 1973-74.

Greek 120 Reading of Selected Portions of the New Testament (1)
The portions of the New Testament read may change each time the course is offered so that it can be taken for credit more than once. Prerequisite: Greek 1C or equivalent.

Greek 198 Directed Group Study (1) F, W, S
An investigation of special topics in Greek culture and civilization through directed reading and research. Consultation with instructor necessary prior to registration. May be repeated.

Greek 199 Independent Studies in Greek (1) F, W, S
Consultation with instructor necessary prior to registration. May be repeated.

Latin 1A-B-C Fundamentals of Latin (1-1-1) F, W, S
The elements of Latin grammar and syntax, with selected readings. 1C is devoted to selected readings from Roman authors.

Latin 2A-B-C Intermediate Latin (1-1-1) F, W, S
Readings from Roman authors. 2A: Catullus; 2B: Cicero; 2C: Ovid. Prerequisite: Latin 1C or equivalent.

Latin 20A-B-C Intensive Latin (1-1-1) Summer
Offered in summer session only, this course covers, in eight weeks, the equivalent of Latin 1A-B-C.

Latin 99 Special Studies in Latin (1) F, W, S
Consultation with instructor necessary prior to registration. May be repeated.

Latin 100 Seminar in Latin Literature (1) F, W, S
Subject matter will vary from year to year. May be repeated for credit. Prerequisite: Latin 2C or equivalent.

Latin 110 Latin Prose Composition (1) W
Prerequisite: Latin 2A or equivalent.

Latin 120 Introduction to Vulgar and Medieval Latin (1)
A study of the morphological, syntactical, and lexical developments in post-Classical Latin as illustrated by the reading of a variety of texts. Prerequisite: Latin 1C or consent of the instructor.

Latin 198 Directed Group Study (1) F, W, S
An investigation of special topics in Roman culture and civilization through directed reading and research. Consultation with instructor necessary prior to registration. May be repeated.

Latin 199 Independent Studies in Latin (1) F, W, S
Consultation with instructor necessary prior to registration. May be repeated.

Classics 99 Special Studies in Classics (1) F, W, S
Consultation with instructor necessary prior to registration. May be repeated.

Classics 141 Classical Historians and Historiography (1) S
The development of historiography from its ethnographic and epic origins to its form as a major literary genre. All readings are in English. Same as History 100C.

Classics 151 Introduction to Classical Literature and Civilization (1) W
Based upon extensive readings from Greek and Roman authors in English translation, this course attempts to present the writers in the context of the historical, cultural, philosophical, and artistic attitudes of the ancient world.

Classics 152 Introduction to Classical Archaeology (1) F
This course will describe the range and variety of materials which can be used as evidence for a reconstruction or a recovery of the Greek and Roman civilizations and the methods by which information is inferred from the artifacts. An effort will be made to emphasize particular facets of daily life, rather than an overview of cultural development. Prerequisite: None.

Classics 153 Classical Mythology and Religion (1) S
Study of the Greek and Roman divinities and religions in light of their impact on the pre-Christian and Christian world. All readings are in English. Prerequisites: None.

Classics 160 Topics in Classical Literature in English Translation (1) F
The subject matter of this course is variable. May be repeated for credit. This year: Greek tragedy. Prerequisites: None.

Classics 169 Ancient Literary Criticism (1) W
A study in English translation of the major literary critics in classical antiquity including Plato, Aristotle, Dionysius of Halicarnassus, Cicero, Horace, "Longinus," Quintilian, Tacitus, and St. Augustine. Designed particularly for students majoring in comparative literature, English, Classics, and the various languages.

Classics 170 Topics in Classical Civilization in English Translation (1) S
The subject matter in this course is variable. May be repeated for credit. 1973-74: Greek political theory.

Classics 175 Advanced Archaeology (1) S
The study of a selected topic (to be announced) in Classical archaeology. Subject matter will vary from year to year. May be repeated for credit. Prerequisite: Classics 152, or equivalent study in classical archaeology or art history, or permission of the instructor.

Classics 198 Directed Group Study (1) F, W, S
Investigation of special topics in Classical studies through directed reading and research. Consultation with instructor necessary prior to registration. May be repeated.

Classics 199 Independent Studies in Classics (1) F, W, S
Consultation with instructor necessary prior to registration. May be repeated.

GRADUATE COURSES IN CLASSICS

Classics 220 Classics Graduate Seminar (1) F, W, S
Subject matter is variable. May be repeated for credit.

Classics 399 Supervised Teaching (1) F, W, S

department of english and comparative literature

The Department of English and Comparative Literature is concerned with the nature and value of literature, possible approaches to literary works, and the relation of literary criticism to the intellectual issues of the day. Fundamentally it is concerned with the humanistic problem of value. Thus its main literary concern is critical and theoretical. Though not alone in the task, the Department recognizes a continuing obligation to help all students write the English language with clarity and grace.

Students are given the opportunity to participate in departmental affairs through two elected student committees, one of undergraduates, one of grad-

uates, which are concerned primarily with matters of personnel and curriculum. The committees meet periodically with faculty committees of the Department, and the recommendations of student committees become matters of record which accompany any recommendations emanating from the Department. Each quarter, all students taking classes within the Department have the opportunity to evaluate the particular course and teacher.

UNDERGRADUATE PROGRAMS

The Department offers to the undergraduate essentially three areas of study:

1. **The Program in Literary Criticism,** where the emphasis is upon formal study of the variety of critical approaches and the reading and criticism principally of English and American literature.

2. **The Program in Writing,** which offers an emphasis on the writing of poetry, fiction, or drama. The aim of the program is to encourage the creative literary powers of the student while introducing him to the discipline of reading and practical criticism, often in workshop situations. Students from Schools other than Humanities may satisfy a component of the breadth requirement by enrolling in one of the Beginners' Workshops and in two of the related courses of the E and CL 6-7-8 group, which introduce important pieces of literature with some attention to the problems that writers face in thinking about and formulating social and psychological phenomena. Students wishing to fulfill the major portion of the 6-3-3 requirement might proceed to the Advanced Workshops in Fiction, Poetry, Non-Fiction, Drama, or Expository Writing.

3. **The Program in Comparative Literature,** which, though administratively a part of the Department, is basically interdisciplinary in its orientation, drawing on faculty and other resources from the fields of the various modern and classical literatures and drama. The consciousness of the modern educated man is the product of centuries of cultural heritage, including not only works of literature in his own tongue but world literature from Homer to Gide and Thomas Mann. At UCI, Comparative Literature is regarded simply as the study of literature from the international point of view, rather than in the national framework made necessary by the traditional university. The student who completes a degree in Comparative Literature will thus have a competent grasp of the whole history of literature in its broad outlines and will be able to deal competently with literary texts, whatever their period or national origins, for his own pleasure or for professional use.

Since the Department believes that a student of literature should recognize the importance of understanding theoretical problems in literature, of developing a broad acquaintance with literary texts, and of experiencing the problems of literary creation at first hand, the Department invites the student to take work in all three of its Programs, with an emphasis in one of the first two (toward a Bachelor's Degree in English) or a major in the third (toward a Bachelor's Degree in Comparative Literature).

By not stipulating a variety of prerequisites the Department also invites students from all schools of the University to take advantage of its offerings. An acceptable level of ability in English composition is the only prerequisite for many of the introductory undergraduate English courses.

Many of the courses will vary in specific content from year to year, depending on the plans of individual teachers, since the department recognizes that no course can possibly treat all the major authors and works relevant to a given period or topic.

The student intending to major in English or Comparative Literature should obtain a copy of *Undergraduate Study in English and Comparative Literature* from the Departmental Office.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: See page 143.

Departmental Requirements

English: Two courses from the E 28A-B-C or CL 50A-B-C groups (including either E 28A or CL 50A) and a third course either from these two groups or from E 6, 7, 8 or CL 7 or 8; CR 100A-B, CL 100; E 102A-B-C; four courses above 102, at least two of which must be 103s; competence in a foreign language equivalent to six quarters of work at Irvine plus one course in a foreign literature in which texts are read in the original language; passing performance in the Senior Comprehensive Examination in English (see below). Students selecting a writing emphasis have some flexibility in substituting writing workshops for period and genre courses; their total courses normally number more than the usual major.

Comparative Literature: Sufficient competence in a foreign language, either modern or classical, to be able to deal with any standard literary or critical text in that language with facility. If the student intends to continue with graduate work, it is highly recommended that he begin the study of a second foreign language before graduation.

Three quarters of lower-division work as described in the English requirement above. English majors normally take E 28A-B-C and Comparative Literature majors CL 50A-B-C.

Normally ten upper-division courses in addition: usually these will include CR 100A-B, CL 100, and CL 102, CL 103; suitable upper-division course work in the literature of a foreign language; appropriate study in English and American literature; further study in literature or allied fields as recommended by the advisor; and either passing performance in the Bachelor's Examination in Comparative Literature or three appropriate CL 102s in lieu of the exam.

Planning a Program of Study

The student should plan, with his faculty advisor, a coherent program of courses, including undergraduate seminars, workshops in writing (for students choosing a writing emphasis), and courses in allied areas outside the Department. It is possible to combine a cluster of courses in literature with other majors in the sciences and social sciences, and to use an English or Comparative Literature major as preprofessional training in government, law, medicine, etc. Students who wish advice in planning such programs should consult both the Department and people in their prospective professional areas.

If the student intends to continue with graduate work, it is highly recommended that he begin the study of a second foreign language before graduation.

The Bachelor's Examination in Comparative Literature

The Bachelor's Examination is given during the student's senior year to test his knowledge of literature, critical theory, and literary history and to investigate his competence in practical criticism as well as his ability to write clearly, succinctly, and convincingly on literary matters. Primarily, the student will be asked questions on works from the Comparative Literature Reading List and about the ways in which these works relate to each other. As in the English exam, which may be replaced by enrollment in E 102A-B-C, students in Comparative Literature may elect three CL 102s in lieu of the Comparative Literature Comprehensive Exam. After 1973-74, students in English will no longer have the exam option and must enroll in E 102A-B-C. Students in Comparative Literature may continue to take the general exam in place of the CL 102s.

GRADUATE PROGRAMS

The Department's three principal areas of work on the undergraduate level – criticism, comparative literature, and the art of writing – are reflected in the graduate programs: the M.A. and the Ph.D. in English with specific attention to criticism, the M.A. and the Ph.D. in Comparative Literature, and the M.F.A. in Writing. The Department encourages applications only from students who plan to pursue the Ph.D. in English or in Comparative Literature or who want to embark on the M.F.A. in Writing. A committee of the Department, with the consent of the Graduate Dean, admits students to these programs. Each program has a Director appointed by the Chairman of the Department, and a deliberate effort is made to maintain close administrative and intellectual ties between the programs.

The Senior Comprehensive Examination in English (E 102A-B-C)

The purpose of this examination and the attached three reading courses is to give students a chance to show how much and how well they have learned in reading on their own. Divided into three parts by historical periods, the examination will ask that a student reveal the following: his ability to read any given piece of literature intelligently; his knowledge of the general outlines of English and American literary history, including the more significant facts and dates; his understanding of the terms appropriate to literary discussion; and his knowledge of the works on the reading list.

Every student must take the three exams his last three quarters. A student who fails one part may enroll in a second course, taking a make-up exam at first opportunity, and so on with parts two and three. No student may take any of the three parts of the exam more than three times, and no student who fails to pass all three parts may receive a degree in English. Normally, students will take the three parts in the A-B-C order; students graduating in an off quarter may vary the sequence.

Copies of past examinations may be obtained in the Office of the Department of English and Comparative Literature.

Specific requirements for graduate degrees will be reached by consultation among members of the faculty and the candidate himself. The first-year graduate student or the candidate for the Master of Fine Arts in Writing plans a program with his advisor; the candidate for the Ph.D. plans with his advisor and a two-man committee. Candidates for literary degrees are encouraged to study philosophy, history, foreign languages and literatures, and the fine arts.

Applicants for graduate degrees in English and Comparative Literature must submit scores for the Graduate Record Examination (GRE) and the Advanced Test, Literature (ATL).

Part-time graduate work is discouraged except in officially designated part-time programs; only in exceptional circumstances will students be permitted to undertake programs of less than six full courses during the academic year. The normal expectation, however, is enrollment in three courses each quarter. A full course load for teaching assistants is six quarter courses during the academic year.

The Department recognizes that virtually all of its graduate students will become teachers, and it believes that graduate departments should be training college teachers as well as scholars – indeed, that teaching and most literary scholarship complement one another. Thus the Department has initiated a program by which all its Ph.D. candidates, in English as well as in Comparative Literature, may gain supervised training as teachers in the arts of writing and of criticism at various undergraduate levels as part of the formal seminar work required for the degree. M.F.A. candidates also have the opportunity of participating in this program.

All those interested in graduate study in the Department should obtain the brochure on graduate programs from the Departmental Office.

English

Master of Arts in English

Each candidate for the M.A. will be assigned to a graduate advisor who will supervise his program. The M.A. plan of study includes (1) the completion of course work, as advised, for three quarters or the equivalent; (2) demonstrated proficiency in reading a designated foreign language; (3) the passing of a written examination upon a designated reading list. Exceptional students may be exempted from taking the examination by petitioning the Graduate Committee, which will review the student's performance and qualifications in arriving at its decision. All M.A. candidates will be required to know fundamental facts about the history of the English language. The candidate must take all of his formal work in courses, seminars, or conferences limited to graduate students.

Master of Fine Arts in English

The Master of Fine Arts (M.F.A.) is a degree awarded in creative writing.

The M.F.A. degree is normally conferred upon the completion of a two-year residence. Each quarter the candidate will be enrolled in either the poetry or fiction section of the Graduate Writers' Workshop, which will constitute two-thirds of his course load, his other course to be selected in consultation with his advisor. The fifth quarter of work toward the degree may be taken at the

Instituto Allende, San Miguel de Allende, México. It is expected that M.F.A. candidates will complete at least one supervised teaching seminar.

In addition to his course work, the candidate is required to pass an examination on a reading list of literary works in the genre of his own writing, and to present as his thesis an acceptable, book-length manuscript of poetry or short stories; or a novel.

Doctor of Philosophy in English

The program for the Ph.D. in English normally includes about two years of full-time enrollment beyond the B.A., three courses of which may be in the graduate teaching program; proficiency in the reading of two acceptable foreign languages; the dissertation; and satisfactory performance on designated examinations.

The languages acceptable depend upon the nature of the student's program as determined by his advisors. Reading competence in one of these languages must be established in the first quarter of residence, and competence in the second well before the general examinations. Satisfactory work in courses in which literary translation is actually practiced must fulfill at least one of the language requirements. The necessity of competence in languages such as Old English is determined by the advisory committee in the light of the student's total program. All candidates for the Ph.D. will be required to know fundamental facts about the history of the English language and basic linguistic theory.

Upon completion of course work the student normally presents himself for general examinations on literary theory and criticism; on some particular literary form, genre, style, theme, or structure; a historical period; a group of authors; and a specific topic. The first four of these examinations are written, the fifth oral. The student has the opportunity to present his own choices for the examination, but the choices must enable him to demonstrate breadth of knowledge and literary understanding and therefore must be approved by his advisory committee. Certain alternatives to this series of examinations may be allowed in special cases.

When the student satisfactorily completes the general examination, he is admitted to candidacy for the degree. As soon after completion of the general examination as is practicable, the student presents to his advisory committee for its approval an essay leading into his dissertation. Submission and acceptance of the dissertation complete the work for the Ph.D. All work for the Ph.D. degree must be in courses, seminars, or conferences limited to graduate students.

Comparative Literature

There are at least four avenues by which the UCI student may approach graduate work in Comparative Literature; students with Bachelor's Degrees from other institutions should have equivalent training:

a) The undergraduate major in Comparative Literature described above.

b) A normal English major in criticism, provided a sufficient background in at least one foreign language is gained. A beginning on a second foreign language is highly recommended.

c) A normal major in drama, with same provisos as b) above.

d) A normal major in a foreign language, provided a sufficient general background in world literature is gained.

Make-up work will be required before graduate studies can begin if one of these avenues has not been taken.

At the graduate level, the study of Comparative Literature becomes more specialized, with the student engaged in the highly technical area of his personal research and in dealing with such problems as the development of genres, interrelations between literatures, the theory and practice of translation, and other literary questions transcending national boundaries.

For the graduate student in Comparative Literature a professional competence in foreign languages is essential. French and German are usually requir for all doctoral candidates, since these languages along with English are the accepted tools of international literary scholarship. A classical language may prove indispensable for work in many traditional fields of literary study, anc the scholar's own specialty may require him to master other languages. The underlying assumption in the whole plan of language requirements is that, after the tool languages have been mastered, the professional scholar's own interests should determine the specific kinds and degree of language skill he acquires.

At the graduate level, the nucleus of the foreign language requirement is the course CL 220, Problems in Translation, in which, after a suitable theoretica preparation, the student plans and carries out a high-quality translation of a literary text. This translation, along with an introduction or other scholarly apparatus explaining and defending the technical decisions involved in the task, is then submitted as a paper for course credit.

Master of Arts in Comparative Literature

The student entering this Master of Arts program should complete course work for the equivalent of three quarters. This course work should include CL 220 (Problems in Translation) with a project in either French or German and appropriate graduate-level work in English, foreign languages, drama, comparative literature, and other areas as counseled by the advisor. Soon after beginning graduate work the student, with the advice and approval of his advisor, will decide on a Field of Specialty which he wishes to emphasize in his progress toward the M.A. degree. (Normally this choice will be a kind of general or preliminary step toward the selection of an Area of Specialty for the Ph.D.)

Graduate study in Comparative Literature requires an exceptional facility in foreign languages, and the student should not attempt a Master's Degree without a thorough knowledge of one foreign language and literature and a considerable knowledge of a second language. Normally the greatest part of the student's work will involve the study of literary texts in the original languages.

At the end of his course work, normally about nine courses at the graduate level, the student will be examined in the following categories: the elected field of specialty; a general knowledge of world literature, including Englisl and American, somewhat more extended than expected of the undergraduat

student; and a knowledge of literary theory and techniques of literary study on a level appropriate for the graduate scholar. Exceptional students may be exempted from taking the examination by petitioning the Graduate Committee, which will review the student's performance and qualifications in arriving at its decision.

Doctor of Philosophy in Comparative Literature

The doctoral program is designed to prepare the student for a professional career as a scholar and critic of literature. Details of the doctoral program in Comparative Literature may be obtained from the Director. Normally the degree requires two years of course work (usually a minimum of three courses per quarter). Of these courses, the only required course is CL 220 (Problems in Translation), which is taken twice, with projects in acceptable languages. The rest of the student's work will be in seminars or other graduate-level courses in Comparative Literature, English, the various foreign language departments, or Drama.

In general an exceptional command of foreign languages is required, normally involving a professional competence in two or more foreign languages, either modern or classical. The doctoral student is encouraged to design and carry out a personal plan of study (the "Area of Specialty") in his particular field of interest. The requirements for the doctorate also include an area of competence in literary theory and practical criticism.

Upon completion of his course work, the student will be examined in the following areas of knowledge: (1) mastery of a limited topic in literary theory or history of criticism, along with general knowledge of major critical texts in the history of literature; (2) Area of Specialty as described above; and (3) a general knowledge of the western European literary tradition, including English and American, commensurate with doctoral competence in the field. Following this examination, and upon recommendation of a Candidacy Committee appointed by the Graduate Council, the student is formally admitted to candidacy.

The study toward the degree of Doctor of Philosophy will culminate in the writing of a suitable dissertation, normally on a comparative subject, although subjects lying within a single literature or dealing with general literary and aesthetic problems not confined to any specific literatures may also be acceptable. Studies of the relation between literature and the other arts are also particularly encouraged.

ENGLISH AND COMPARATIVE LITERATURE FACULTY

Harold Toliver, Ph.D. University of Washington, *Professor of English and Chairman of the Department*

Hazard Adams, Ph.D. University of Washington, *Professor of English and Vice Chancellor – Academic Affairs*

Howard S. Babb, Ph.D. Harvard University, *Professor of English*

Joseph N. Bell, B.A. University of Missouri, *Lecturer in English*

James L. Calderwood, Ph.D. University of Washington, *Professor of English*

Ralph A. Flores, Ph.D. Princeton University, *Assistant Professor of Comparative Literature*

Alexander Gelley, Ph.D. Yale University, *Associate Professor of Comparative Literature and Director of the Comparative Literature Program*

Jesse Gellrich, Ph.D. State University of New York at Buffalo, *Assistant Professor of English*
Harvey Gross, Ph.D. University of Michigan, *Professor of English*
Oakley Hall, M.F.A. University of Iowa, *Professor of English and Director of the Writing Program*
Carl Hartman, M.F.A. University of Iowa, *Senior Lecturer in English and Assistant Vice Chancellor – Academic Affairs*
Donald Heiney, Ph.D. University of Southern California, *Professor of Comparative Literature*
Renée Riese Hubert, Ph.D. Columbia University, *Professor of Comparative Literature and French*
Murray Krieger, Ph.D. Ohio State University, *Professor of English and Director of the Program in Critical Theory*
Frank Lentricchia, Ph.D. Duke University, *Associate Professor of English*
George J. Leonard, Ph.D. Columbia University, *Lecturer in English*
Jay Martin, Ph.D. Ohio State University, *Professor of English*
James McMichael, Ph.D. Stanford University, *Associate Professor of English*
Robert L. Montgomery, Ph.D. Harvard University, *Professor of English*
Robert L. Peters, Ph.D. University of Wisconsin, *Professor of English*
Barbara L. Reed, Ph.D. Indiana University, *Assistant Professor of English*
Edgar T. Schell, Ph.D. University of California, Berkeley, *Associate Professor of English*
Myron Simon, Ed.D. University of Michigan, *Associate Professor of English and Education and Vice Chairman of the Department*
David R. Thomason, M.A., M. Phil. University of London, *Acting Assistant Professor of Classics and Comparative Literature*
Shirley Van Marter, Ph.D. University of Chicago, *Assistant Professor of English*
Albert O. Wlecke, Ph.D. Michigan State University, *Associate Professor of English*
Charles P. Wright, Jr., M.F.A. University of Iowa, *Associate Professor of English*
Max Wei Yeh, Ph.D. University of Iowa, *Assistant Professor of Comparative Literature*

UNDERGRADUATE COURSES IN ENGLISH AND COMPARATIVE LITERATURE

See page 5 for explanatory notes on course listings.

Writing Clinic: Open as space allows to all students who wish tutorial and workshop help with their writing. Students who have not met the Subject A requirement *must* take and repeat the Writing Clinic until they have met the requirement. For further information, consult the Subject A office.

E 6 Shakespeare (1) F
Lecture, three hours. Reading of several major plays, with concentration on thematic issues and problems in dramatic presentation.

E 7 Major American Authors (1) W
Lecture, three hours. Readings in Twain, Whitman, Eliot, Faulkner, and several other figures.

E 8 Major English and Irish Authors (1) S
Lecture, three hours. Readings usually in a major figure or text such as Joyce's *Ulysses.*

CL 7 Existentialism in Literature (1) F
Lecture, three hours. Introduction to literary aspects of problems raised by existential philosophers.

CL 8 Major European Authors (1) W
Comparative study of two or more European writers related by genre, style, etc., as, for instance, Balzac and Dickens, Kafka and Beckett.

E 28A-B-C The Nature of Literature (1-1-1) F, W, S
Discussion, three hours. Lyric and Epic Imagination (A); Comic and Tragic Vision (B); Realism and Romance (C). Reading of selected texts to explore the ways in which these modes formulate experience. Students will write several short papers in each course. Recommended for English majors.

WR 30 The Art of Writing: Poetry (1) F, W, S
Beginners' workshop in the writings of poetry, evaluations of student manuscripts, and parallel readings. Three hours.

WR 31 The Art of Writing: Prose Fiction (1) F, W, S
Beginners' workshop in fiction writing, evaluation of student manuscripts, and parallel readings. Three hours.

WR 32 The Art of Writing: Drama (1)
Beginners' workshop in playwriting, evaluation of student manuscripts, and parallel readings. Same as Drama 32. Three hours.

WR 38 The Art of Writing: Non-Fiction and Journalism (1)
Beginners' workshop in the writing of non-fiction and news articles, evaluation of student manuscripts, projects. Three hours.

WR 39 Expository Writing (1) F, W, S
Practice in writing clear and effective expository prose. Three hours.

CL 40A-B-C Development of Drama (1-1-1) F, W, S
Same as Drama 40A-B-C.

CL 50A-B-C The Literary Tradition (1-1-1) F, W, S
The reading of selected major works in the western literary tradition.

CR 100A Literary Theory and Criticism (1) F
Required of juniors beginning majors in English and Comparative Literature. A series of lectures and discussions devoted to the theoretical dimensions of literary criticism as reflected in major theorists from Plato to the present. Prerequisites: a lower-division series recommended.

CR 100B Undergraduate Seminar in Literary Theory (1) W, S
Seminar, three hours. Open to upper-division majors in English and Comparative Literature only, and required of them soon after completion of CR 100A. Sections limited to 15 students. Each instructor announces a theoretical topic deriving from CR 100A and explores it through a number of theoretical and literary texts. Prerequisites: CR 100A; a lower-division series recommended.

WR 100B Undergraduate Seminar in Literary Theory (1)
Seminar, three hours. Substitute for CR 100B (above) for writing emphasis students. Prerequisites: CR 100A; a lower-division series recommended.

CL 100 Undergraduate Seminar in Literary Theory and Practice (1) F, W, S
Seminar, three hours. Open to upper-division majors in English and Comparative Literature only, and required of them. Sections limited to 15 students. Each instructor announces a topic that joins theoretical speculation about literature with the practical criticism of individual literary texts.

E 102A-B-C Comprehensive Exam Reading Program in English Literature F, W, S
Required of English majors; qualified non-majors may enroll with permission. This series of three courses is designed to prepare students for three parts of the comprehensive exam. It is accompanied by biweekly lectures. Fall quarter: Medieval and Renaissance. Winter quarter: later 17th century through earlier 19th (English and American, Restoration, Neoclassical, Romantic). Spring quarter: Victorian, American Renaissance, Modern.

CL 102 Undergraduate Reading Program in Comparative Literature (1)
Reading course with occasional lectures. Required of Comparative Literature majors, but others may enroll with permission, as advised. Three appropriate enrollments may substitute for the CL comprehensive examination. CL 102A: Classical and Medieval; CL 102B: Renaissance and Baroque; CL 102C: Enlightenment and Romanticism; CL 102D: Post-Romanticism. Two of these will be offered each year.

E 103 Undergraduate Lectures in English Literature (1) F, W, S
Three hours. Open to all students. May be taken more than once provided the topic changes. A series of lectures on announced topics in literary criticism, history, genres, modes, major authors. Prerequisites: None for most topics; check descriptions of individual course topics.

CL 103 Undergraduate Lectures in Comparative Literature (1) F, W, S
Three hours. Open to all students. May be taken more than once provided the topic changes. A series of lectures on announced topics in literary criticism, history, genres, modes, major authors. Prerequisites: None for most topics; check descriptions of individual course topics.

CL 104 The Interdisciplinary Course (1)
Lecture course open to all students. Three hours. May be taken more than once provided the topic changes. Treats interdisciplinary topics of various kinds (e.g., literature and politics, literature and religion, literature and science, literature and other arts). Prerequisites: None for most topics; check descriptions of individual course topics.

WR 109 Non-Fiction and Journalism (1) W
By consent. Three hours. The course develops out of WR 38 for students with special competence for advanced work in journalism.

WR 110 Short Story Writing (1)
By consent. Three-hour workshop in short fiction; discussion of student writing and of relevant literary texts.

WR 111 Poetry Writing (1)
By consent. Three-hour advanced poetry writing workshop; discussion of student writing and of relevant literary texts.

WR 112 Playwriting (1)
By consent. Three-hour advanced playwriting workshop; discussion of student writing and of relevant literary texts. Same as Drama 112.

WR 113 Novel Writing (1)
By consent. Three-hour advanced workshop in fiction writing; discussion of student writing and of relevant literary texts.

WR 115 Conference in Writing (1)
By consent. Primarily for writing emphasis seniors. May be repeated.

WR 139 Advanced Expository Writing (1) F, W, S
Primarily for candidates for the teaching certificate. Three hours. Prerequisites: E 28A-B-C, CL 50A-B-C, Hum. 1A-B-C, or the equivalent to one of these sequences. WR 39 is also advisable.

E 181 The Structure of English (1)

E 184 History of English Language (1)

E 187 Selected Topics in English Linguistics (1)

E 198 Special Topics (1) F, W, S
Directed group study of selected topics. By consent, by arrangement. May be repeated.

E 199 Reading and Conference (1) F, W, S
By consent, by arrangement. May be repeated. To be taken only when the materials to be studied and the topic to be pursued lie outside the normal run of departmental offerings, when the student will have no formal chance in the course of several years to pursue the subject in which he is interested, and when the subject fits significantly into the student's major program. Before enrolling in this course, the student must

have the consent of his advisor, the instructor with whom he wishes to study, and the Chairman of the Department. To obtain consent he must submit a written description of the course to the Chairman.

CL 198 Special Topics (1) F, W, S
Directed group study of selected topics. By consent, by arrangement. May be repeated.

CL 199 Reading and Conference (1) F, W, S
See the description of E 199 above.

GRADUATE COURSES IN ENGLISH AND COMPARATIVE LITERATURE

All graduate courses may be repeated when the topic varies. Enrollment in each graduate course requires the consent of the instructor. The courses are limited to registered graduate students, except that specially qualified fifth-year students seeking a Secondary Teaching Credential may enroll if they have *first* received permission from the Department's Graduate Committee and if space permits.

In addition to the following courses, graduate students in the Department of English and Comparative Literature may find these Humanities courses of special interest: Humanities 200 (Historical Theory and Analysis), Humanities 210 (Topics and Methods in Linguistics), and Humanities 230 (Philosophical Analysis).

E 200 Selected Topics in English Linguistics (1)

E 210 Studies in Literary History (1) F, W, S

CL 210 Comparative Studies (1) F, W, S

CR 220A-B-C Studies in Literary Theory and Its History (1-1-1) F, W, S
CR 220A same as Humanities 220.

CR 220 Studies in Criticism and Theory (1) F, W, S

CL 220 Problems in Translation (1)

E 225 Studies in Literary Genres (1) F, W, S

E 230 Studies in Major Writers (1) F, W, S

E 235 Methods of Literary Scholarship (1)

WR 250 Graduate Writers Workshop (1-2) F, W, S

WR 251 Writing in Conference (1-2) F, W, S

E 290 Reading and Conference (1) F, W, S

CL 290 Reading and Conference (1) F, W, S

E 291 Guided Reading Course (1)

CL 291 Guided Reading Course (1)

E 299 Dissertation Research (1-3) F, W, S

CL 299 Dissertation Research (1-3) F, W, S

E 398 The Teaching of English (1) F
Restricted to fifth-year students in the Teacher Certification program and to others with consent of Department's Graduate Chairman.

E 399 Seminar in University Teaching (1) F, W, S
By consent, Ph.D. candidates in English and in Comparative Literature may enroll three times in English 399 before taking the doctorate. Except for teaching assistants, however, no student will enroll in this course during his first year of graduate study. (Students enrolling with an M.A. from another institution may plan to take 399

twice their first year.) Graduate teachers are assigned by the Graduate Committee to teach half-sections of lower-division courses or to serve as interns in upper-division courses. M.F.A. candidates in their second year of study may apply to the Graduate Committee to participate in E 399.

department of french and italian

The basic program brings the student to participate in the creative process of language, to conceptualize in French or Italian as he learns to understand, speak, read, and write. All classes are taught entirely in the foreign language, and a multiple approach stresses the interdependence of the four basic skills and makes them mutually reinforcing. The language laboratory is used to complement classroom activity.

Representatives chosen by the undergraduate French majors and by the graduate students serve on departmental committees. These representatives also participate in department meetings and are responsible for student evaluation procedures.

UNDERGRADUATE PROGRAM IN FRENCH

At the intermediate lower-division level, texts of contemporary literary and social interest provide the focus for advanced conversation, reading, and composition.

After the second year, courses in speaking (conversation and phonetics) and writing enable the student to attain a greater degree of proficiency, preparing him for further study in French literature and linguistics and in French Civilization and Culture.

In the introductory courses in literature, complete texts are studied by genre: poetry in the fall; theatre in the winter; the novel in the spring. The student learns to analyze and interpret different types of creative literature and is introduced to various critical techniques. At the more advanced level, literature courses may emphasize a single author, a generation, or a genre within an historical period. The content of these courses changes yearly according to the interests of both faculty and students. Senior seminars are offered periodically to discuss literary problems which cannot be dealt with in depth in the regular offerings; among these are African Literature in French, Structuralism.

Courses in Civilization and Culture explore aspects of French history, intellectual thought, and the arts. Courses are offered with an historical emphasis (The World of the Renaissance in France; The Age of Louis XIV) and with a comparative orientation (Poetry and Painting; Fantastic Art and Literature; Movie and Novel).

Courses in linguistics introduce students to aspects of the structure of the French language and to the application of linguistic techniques to problems of literary analysis.

Students are placed in elementary and intermediate courses according to their years of previous study and their grades; no placement examination is given. One year of high school is equated with one quarter of work at UCI. A student may not go back more than one quarter and receive credit.

Students are encouraged to participate in programs of study abroad during the junior year.

Requirements for the Bachelor's Degree in French

University Requirements: See page 31.

School Requirements: See page 143.

Departmental Requirements

French 100A-B, 101A-B-C, and a) seven other upper-division courses of which at least five must be in literature, or b) seven other upper-division courses of which at least four must be in Civilization and Culture.

Planning a Program of Study

The student should plan, with his faculty advisor (assigned upon entering the major), a coherent program of courses to fulfill either the literature or the culture emphasis.

The Department encourages the student to study in France, either through the University's Education Abroad Program or independently. Information is available in the Department Office.

Students should consult with their advisors concerning career plans in the areas of teaching, industry, journalism, law, civil service, etc.

UNDERGRADUATE PROGRAM IN ITALIAN

Third- and fourth-year offerings provide an introduction to Italian literature and culture. This material also serves as a basis for training in composition, conversation, phonetics.

Tutorial and seminar courses are available for advanced students. Students are encouraged to pursue their interests through a major in Humanities which combines Italian literature, culture, history, art, music.

GRADUATE PROGRAMS IN FRENCH

The Department stresses understanding far more than encyclopedic knowledge, experimentation with various critical approaches rather than the perpetuation of a tradition, creativity rather than conformity.

Master of Arts in French

The Master of Arts degree is considered to be a step towards the Ph.D. degree; the Master's examination functions as a qualifying exam for the doctoral program. Most candidates take a minimum of eleven graduate courses, with at least six in literature, one in linguistics, and one in writing and style. Particularly well-prepared students may receive special permission to take a minimum of nine courses and to write a short thesis, for which two course credits are given. Individual programs are arranged in consultation with the graduate advisors. Proficiency in a foreign language other than the major language is

required (proficiency is defined as the equivalent of the level attained at the end of course 2C).

All M.A. candidates are required to pass a written and oral examination. The student writes essays where he demonstrates his ability to discuss literary texts – which may or may not have been part of the class program – and to establish relationships between literary works of different periods, genres, or authors.

Doctor of Philosophy in French

Upon the student's successful completion of the qualifying exams for the doctoral program, or his admission to the program with a Master's Degree from an accredited institution, a Guidance Committee is appointed to advise the candidate in his choice of courses and to help him prepare for his comprehensive examinations and his dissertation. The examination committee is composed of five members, one of whom is in another department, in fields closely related to the student's interest and projected area of specialization; one member of the committee will be expected to direct the dissertation.

Language Requirements: A reading knowledge of two foreign languages relevant to the student's area of specialization and subject to the approval of the Department.

Course Requirements: A minimum of 18 graduate courses or seminars in French beyond the B.A. including a course in literary criticism; two graduate courses in French linguistics, one diachronic and the other synchronic, depending on courses taken for the M.A.; and a minimum of three graduate courses outside the Department in areas related to the field of specialization.

Teaching: Since the overwhelming majority of Ph.D. candidates plan to teach, this Department recognizes its responsibility to train them as teachers. Therefore, as far as it is possible, all candidates without previous teaching experience are required to participate in a program of supervised teaching for at least one year.

Comprehensive Examination – Written and Oral: The written part of the Comprehensive consists of a series of open-book examinations involving clearly defined problems of a critical or historical nature. The student may be given from one to three days to answer any part of the examination. The oral part of the Comprehensive assesses the student's knowledge of French literature and his understanding of a given literary movement. The student will be examined on (a) five of the following six periods of French literature: Medieval; 16th century; 17th century; 18th century; 19th century; 20th century; or four of these periods plus the development of a single literary genre through all periods of French literature; (b) a given literary movement (e.g., romanticism, baroque, etc.) in a non-French literature.

Dissertation: The dissertation topic chosen by the candidate will normally, but not necessarily, fall within one of the major fields covered by the qualifying examination. The dissertation must be defended in an oral examination and approved by the Doctoral Committee before the candidate is recommended for the degree.

Three faculty members proposed by the Department and appointed by the Graduate Council constitute the Doctoral Committee which directs the prep-

aration and completion of the doctoral thesis. The Doctoral Committee supervises a final examination, the focus of which is the content of the doctoral thesis. The Doctoral Committee certifies that a completed thesis is satisfactory through the signatures of the individual Committee members on the title page of the accepted thesis.

FRENCH AND ITALIAN FACULTY

Franco Tonelli, Ph.D. Louisiana State University, *Associate Professor of French and Italian and Chairman of the Department*
Howard A. Appel, M.A. University of Washington, *Supervisor of Teacher Education – Foreign Languages, Lecturer in French*
David Carroll, Ph.D. The Johns Hopkins University, *Assistant Professor of French*
James Chiampi, Ph.D. Yale University, *Acting Assistant Professor of Italian*
Andrée G. Darling, *Visiting Scholar*
Henri Diament, Ph.D. Columbia University, *Assistant Professor of French*
Judd D. Hubert, Ph.D. Columbia University, *Professor of French*
Renée Riese Hubert, Ph.D. Columbia University, *Professor of French and Comparative Literature*
Alice M. Laborde, Ph.D. University of California, Los Angeles, *Associate Professor of French*
Thérese B. Lynn, Ph.D. University of Illinois, *Assistant Professor of French*
Leslie W. Rabine, ABD Stanford University, *Acting Assistant Professor of French*
Richard L. Regosin, Ph.D. The Johns Hopkins University, *Associate Professor of French*
Aliko Songolo, ABD Iowa University, *Acting Assistant Professor of French*

LOWER-DIVISION COURSES IN FRENCH

See page 5 for explanatory notes on course listings.

1A-B-C Fundamentals of French (1-1-1) 1A (F), 1B (W), 1C (F, S)
Students are taught to conceptualize in French as they learn to understand, read, write, and speak. Classes are conducted entirely in French and meet daily. Language laboratory attendance is required.

2A-B-C Intermediate French (1-1-1) 2A (F, W), 2B (W, S), 2C (F, S)
Texts of contemporary literary or social interest provide the focus for more advanced conversation, reading, and composition. Classes are conducted entirely in French. Prerequisite: Normally three years of high school French or one year of college French.

11 French Phonetics (1) W

13 Conversation (1) F, W, S
The course may be taken only once for credit.

UPPER-DIVISION COURSES IN FRENCH

100A-B Composition and Grammar Review (1-1) 100A (F, W), 100B (W, S)
Systematic review of grammar with written compositions on themes from readings chosen to introduce the student to aspects of literary analysis – prose and poetry. Prerequisite: Completion of French 2C or equivalent; 100A or equivalent is the prerequisite for 100B.

101A-B-C Introduction to French Literature
In this series of courses students learn to analyze and interpret creative literature by genre and are introduced to various critical techniques. Need not be taken in sequence.

101A Introduction to Poetry (1) F

101B Introduction to Theater (1) W

101C Introduction to Novel (1) S

105 Advanced Composition and Style (1) S
Prerequisites: 101A-B.

The prerequisite for the following upper-division courses is French 101A-B-C or the equivalent. The content of these upper-division courses changes yearly. Students should consult the offerings in linguistics under the Program in Linguistics.

110A-B-C French Civilization (1-1-1) F, W

112A-B-C French Culture (1-1-1)

115A-B-C Readings in Medieval Literature and Culture (1-1-1)

116A-B-C Readings in Sixteenth-Century French Literature (1-1-1)

117A-B-C Readings in Seventeenth-Century French Literature (1-1-1)

118A-B-C Readings in Eighteenth-Century French Literature (1-1-1)

119A-B-C Readings in Nineteenth-Century French Literature (1-1-1) F, S

120A-B-C Readings in Twentieth-Century French Literature (1-1-1)

130 Junior-Senior Seminar in French Literature (1) S
May be repeated. Prerequisites: Two upper-division literature courses beyond 101.

131 Senior Seminar in Linguisitcs (1)
May be repeated. Prerequisite: Linguistics 50 or consent of instructor.

140A-B-C Readings in French Literary Genre (1-1-1) F

150A-B-C French Literature in Translation (1-1-1)

180A-B-C Pro-seminar in French Literature (1-1-1) F, W, S
Prerequisites: Two upper-division literature courses beyond 101.

199 Special Studies in French (1)
May be repeated.

GRADUATE COURSES IN FRENCH

The content of these courses changes yearly. Students should also consult the offerings of the Program in Linguisitcs.

In addition to the following courses, graduate students in French might find these Humanities courses of special interest: Humanities 200 (Historical Theory and Analysis), Humanities 210 (Topics and Methods in Linguistics), Humanities 220 (Literary Theory), and Humanities 230 (Philosophical Analysis).

200 Selected Topics in French Linguistics (1)
May be repeated.

201 History of the French Language (1)
Prerequisite: Fundamentals of Latin.

203 Contrastive French Phonology (1)

203 Contrastive French Morphology and Syntax (1)

208 Stylistics (1)

210A-B-C Studies in Medieval Literature (1-1-1)

216A-B-C Studies in Renaissance Literature (1-1-1)

217A-B-C Studies in Baroque and Classical Literature (1-1-1)

218A-B-C Studies in Eighteenth-Century Literature (1-1-1)

219A-B-C Studies in Romanticism and Symbolism (1-1-1)

219D-E Studies in Naturalism and Realism (1-1)

220A-B-C Contemporary Novel (1-1-1)

221A-B-C Contemporary Poetry (1-1-1)

222A-B Contemporary Theater (1-1)

230 Studies in Dramatic Literature (1)
May be repeated.

231 Studies in Fiction (1)
May be repeated.

232 Studies in Non-Fictional Prose (1)
May be repeated.

233 Studies in Poetry and Poetics (1)
May be repeated.

240 Studies on a Major Writer (1)
May be repeated.

260A-B Literary Criticism (1-1)

270 Writing and Style (1)

290 Research in French Language and Literature (1)
May be repeated.

299 Dissertation Research

399 Teaching of French (1)
Restricted to those holding graduate teaching fellowships.

LOWER-DIVISION COURSES IN ITALIAN

See page 5 for explanatory notes on course listings.

1A-B-C Fundamentals of Italian (1-1-1) F, W, S
Students are taught to conceptualize in Italian as they learn to understand, read, write, and speak. Classes are conducted entirely in Italian and meet daily. Language laboratory attendance is required.

2A-B-C Intermediate Italian (1-1-1) F, W, S
Texts of contemporary literary or social interest provide the focus for more advanced conversation, reading, and composition. Classes are conducted entirely in Italian. Prerequisites: Normally three years of high school Italian or one year of college Italian.

99 Tutorial in Italian Literature and Culture (1)

UPPER-DIVISION COURSES IN ITALIAN

100A-B Italian Language and Civilization (1-1) F, W
Systematic review of grammar with written and oral composition on topics chosen from readings on Italian culture and civilization. Prerequisite: Completion of, at least, Italian 2A or equivalent.

101A-B-C Introduction to Italian Literature
In this series of courses students learn to analyze and interpret creative literature by genre and are introduced to various critical techniques. Need not be taken in sequence.

101A Introduction to Poetry (1) F

101B Introduction to Theatre (1) W

101C Introduction to Novel (1) S

140A-B-C Readings in Medieval and Renaissance Literature (1-1-1) F, W, S

199 Tutorial in Italian Literature and Culture (1) F, W, S

department of german

UNDERGRADUATE PROGRAM

Since Western Culture is largely determined by the interaction of various peoples who express themselves in different languages, we can understand ourselves and our social setting only if we transport ourselves out of our habitual linguistic and cultural environment. The study of a language closely related to but sufficiently different from English, such as German, and the study of the social development of German-speaking peoples provide a view of our world which will transcend parochialism. Accordingly, the Department offers a program for majors based on courses in which the emphasis will be on the study of German language and literature in their social and political setting. Two separate majors are offered: a major with an emphasis in literature, and a major with an emphasis in linguistics.

All courses in the Department are taught in German to an extent compatible with the aim of the course. In the basic courses the student will develop an understanding of the nature of the language, based on linguistic principles, while learning the necessary skills. Use will be made of the language laboratory. At the end of the first year, students will have attained mastery of the basic structure of the language.

At the intermediate and advanced levels the student's ability to read and write German will be gradually developed. A third-year course of two quarters will stress composition as opposed to translation. It will be preceded by a course in phonetics which will aim to perfect the pronunciation as well as to introduce historical and dialectical variants. The introductory course in literature, also in the third year, will familiarize the student with German terminology used in the interpretation of literature. It is assumed that the student is familiar with basic concepts of literature in English.

Students are encouraged to participate in programs of study abroad during the summer and the junior year in Göttingen.

Students entering UCI with previous German training will be given advanced standing as follows. In general, one year of high school work is equated with one quarter of UCI work. Thus students with one, two, three, and four years of high school German will enroll in German 1B, 1C, 2A, and 2B respectively. Exceptions to this placement procedure must have the approval of the director of first- and second-year German instruction.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: See page 143.

Departmental Requirements

German Major with Literature Emphasis: German 100A-B-C; German 101; eight literature courses drawn from German 102-199.

German Major with Linguistics Emphasis: German 100A-B-C; German 101; two literature courses drawn from German 102-199; German 180; German 205; Linguistics 50, 102, 103, and 151.

GRADUATE PROGRAM

Master of Arts in German

Before entering the program, a candidate is expected to have the equivalent of our undergraduate major. The minimum course requirements for the M.A. degree is eight courses within the German Department which must include the Introduction to Middle High German. Reading knowledge of a foreign language other than German is also required for the M.A. degree. Further requirements are:

The Preparation of a Reading List

All candidates should prepare as early as possible a list of works read in the field of German literature, e.g., both primary texts and critical works. This list should preferably be augmented by critical texts and by works from other literatures which, in the candidate's opinion, relate to the German works in his list. Since it should ultimately contain representative selections from various eras of German literature and some works of criticism, a tentative list must be discussed with the graduate advisor before the end of the fall quarter. Candidates should indicate on the list a number of works with which they are especially familiar. In its final form (e.g., including works read during the year both in and out of class) the list will be submitted together with the essay two weeks before the oral exam.

The Master's Essay

The purpose of the written part of the M.A. exam is to show the candidate's methodological progress in interpreting German literature. It consists of an essay in which a text is elucidated and related to a) pertinent works by the same author, b) its social and historical context, c) other works of German or other literatures with which the candidate is familiar. The level of the discussion will normally be enhanced by the candidate's knowledge of the relevant secondary literature. The topic of the essay should be tentatively formulated and reported to the graduate advisor before the end of the fall quarter.

The Oral Exam

During the oral exam the following items will be discussed: a) the essay; b) the reading list. The discussion based on the reading list will focus on works which the student knows well, but may broaden into other areas.

One Course in Teaching Practice (399)

Ph.D. in German

The Department requires a minimum of 24 approved courses. These should include courses in philosophy, history, comparative literature, etc., suitable for the individual student's program of study. The Introduction to Middle High German and one course in medieval German literature are required. The student will also enroll in at least three of the German Department's colloquia. In addition he must demonstrate a reading knowledge of two languages other than English and German or an extensive knowledge of one such language.

Since the majority of Ph.D. candidates choose careers as teachers, the German Department recognizes its obligation to offer them preparatory experience. Therefore, all candidates for the Ph.D. without previous teaching experience will teach under the supervision of a faculty member at least one course in

each of three quarters for which they will receive credit as German 399. Three of these courses may be counted towards the 24 required courses for the Ph.D.

Comprehensive Examination

There are two parts to the examination. 1) The student will choose *either* to write an open-book essay *or* to present from notes a lecture to the faculty and to the other graduate students. The essay or the lecture will be on a text or texts selected by the faculty from a reading list submitted by the student after consultation with his advisor. 2) An oral examination of two to three hours' duration ranging over the whole field of the student's studies.

Dissertation

Towards the end of their second year of study, the student should formulate a tentative dissertation topic. At this time the faculty will evaluate the student's general progress towards the Ph.D. degree. Three faculty members proposed by the Department and appointed by the Graduate Council constitute the Doctoral Committee which directs the preparation and completion of the dissertation. The Doctoral Committee certifies that a completed dissertation is satisfactory through the signature of the Committee members on the title page of the dissertation.

GERMAN FACULTY

William J. Lillyman, Ph.D. Stanford University, *Professor of German and Chairman of the Department; Dean of Humanities*

Theodore Fiedler, Ph.D. Washington University, *Assistant Professor of German*

Anton Kaes, M.A. University of Munich, *Acting Assistant Professor of German*

Herbert Lehnert, Ph.D. University of Kiel, *Professor of German*

Bert Nagel, Ph.D. University of Heidelberg, *Professor of German*

Paul R. Schimmelpfennig, Ph.D. Princeton University, *Assistant Professor of German*

LOWER-DIVISION COURSES IN GERMAN

It is recommended that students also take Linguistics 50 and other courses listed under the Program in Linguistics. See page 5 for explanatory notes on course listings.

1A-B-C Fundamentals of German (1-1-1) F, W, S
Four meetings per week. Concentrate on learning to speak and read modern German.

2A-B-C German Reading and Composition (1-1-1) F, W, S
Lecture, together with large and small group discussions. Introduction to modern German literature and cultural history. One section of 2C will be devoted to Scientific German. Prerequisites: Normally three years of high school German or one year of college German.

UPPER-DIVISION COURSES IN GERMAN

100A Contrastive Phonetics of German and English (1) F
Practical work in the contrastive phonetics of German and English as well as study of German orthography. Prerequisite: German 2C.

100B-C Advanced Composition (1-1) W, S
The aim of these courses is to help the student develop competence in writing clear expository German. Prerequisite: German 2C.

101 Introduction to Literature (1) F
Primary emphasis in this course will be on how to read literature – drama, prose, poetry – and on obtaining an awareness of the development of German literature from the Enlightenment to the Modern Period.

102A Literature and Society Since World War II (1) S

102B Literature and Society 1918-1945 (1) W
Interdisciplinary introduction to recent German literature not only as an aesthetic phenomenon but also as a social and political force. Methodological problems arising from an analysis of literature in its historical context.

103 Advanced Conversation (1) W
The course offers students an opportunity to develop and practice their speaking skills in German. Topics for conversation will be chosen from German newspapers and periodicals.

110 Advanced Composition and Stylistics (1)
Besides providing the student an opportunity to gain further competence in writing effective German prose, the course will also introduce him to the study of stylistics. Readings may range from literature and journalism to the social sciences. Prerequisite: German 100C or equivalent. Not offered 1973-74.

Courses numbered 117 to 199 may be repeated provided course content changes. Prerequisite for these courses: German 101 or equivalent.

117 Topics in German Literature 750-1750 (1) F
Specific course content will be determined by individual faculty members. Example: Literary and Polemical Writing of the Reformation.

118 Studies in the Age of Goethe (1) W
Course may deal with individual authors such as Lessing, Goethe, Schiller, Kleist, and Hölderlin or the drama of the "angry young men" of the German 1770's.

119 Studies in Nineteenth-Century German Literature (1) F
Course may deal with individual authors such as Büchner, Grillparzer, Keller, and Nietzsche or study broader social-literary phenomena such as the Viennese Folk Theatre.

120 Studies in Twentieth-Century German Literature (1) S
Course may deal with individual authors such as Thomas Mann, Brecht, Kafka, Rilke, Grass, or address questions of genre such as the drama of German Expressionism.

150A-B-C German Literature in Translation (1-1-1) F, W, S
Reading of major German literary works 1750 to the present in translation.

180 Structure and History of the German Language
Not offered 1973-74.

199 Special Studies in German (1) F, W, S

GRADUATE COURSES IN GERMAN

All graduate courses offered in the Department will fall under the following generic headings. All courses may be repeated, provided course content changes.

200 Literary Criticism (1) S

210 Literary Theory (1) W

220 Linguistics (1) F

230 Literary and Cultural History (1) W, S

240 Colloquium (1) W

250 Tutorial (1) F, W, S

399 Teaching of German (1) F, W, S

department of history

UNDERGRADUATE PROGRAM

The undergraduate program in History is designed to develop critical intelligence and to foster an awareness of ourselves and our world through the study of the past. The Department offers a variety of approaches to history, each emphasizing basic disciplinary skills: weighing evidence, analyzing historical problems, exploring the role of theory, and improving expository writing.

All History majors participate in two kinds of introductory courses. The first (History 29A-B-C) is a comparative history course that acquaints students with the modern world by examining some of the basic characteristics of modernity and by focusing on the historic process of modernization in several different societies. The second (one course from History 110A, 110B, or 110C) is an introduction to the discipline of history: the history of historical writing, the problem of conceptualization, the formulation of historical questions, and the relationship of theory and evidence.

From these introductory courses the student moves on to a series of upper-division courses, the content of which range from the examination of individual nation-states (e.g., British History), to studies of the relations among nation-states (e.g., European International History), to an analysis of ideas, belief-systems, and values (e.g., The Darwinian Revolution or American Intellectual History). Beginning in 1973-1974 the Department will also offer courses in a program focused on Social History, Modernization, and Comparative History (e.g., Parliament and Society or Class, Race, and Industrialization). The aim of these courses is to study human groups and institutions to see how various groups experienced modernization either as beneficiaries or victims. Many courses are organized around themes, some of which are science and technology, race and class, the family, war, popular and elite culture, industrialization, revolutions, ideologies, cities. Finally, a series of seminars for seniors focus on a particular aspect of more general phenomena (i.e., France: May 1968). Students are also encouraged to enroll for courses in related subjects of the social sciences, humanities, and fine arts.

The History major thus guides the student from the general to the particular, while maintaining a tension between the two. This experience, it is hoped, will aid the student in viewing his or her own participation in history and in the events of the wider world in a critical manner, in making sense out of apparent chaos, and yielding a richness and breadth to individual experience.

A Summary Statement of the Undergraduate Major

Twelve courses: the three-quarter lower-division sequence; six upper-division courses (may include one "Independent Study"); one two-quarter Senior Seminar; one Historiography course.

Note: At least three upper-division courses must be related to the area in which the student will select his Senior Seminar. Students who have graduate work in view are urged to have a reading knowledge of a modern European language by their senior year and to seek to use it in the seminar.

The Department of History seeks to work closely with its students. Five student representatives — three undergraduates, one graduate, and one teaching assistant (each elected by their respective constituencies), sit regularly with the faculty at its department meetings and serve on major department committees. Students also play an important role in the evaluation of teaching by the faculty and teaching assistants.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: See page 143.

Departmental Requirements

History 29A-B-C or, for upper-division transfer students, a year-long survey in history; seven additional upper-division courses, including one Historiography; History 190A-B (Senior Seminar).

GRADUATE PROGRAM

At Irvine we are supplementing the traditional concerns of graduate work in History with several new kinds of emphases, including those upon: mastering the philosophical bases of the subject; exploring the comparative and topical approaches to analysis; exploiting the techniques and theory of neighboring disciplines; and developing abilities to teach effectively on the college/university level.

The objective of our program is to provide future historians with the skills, concepts, and awareness they will need to understand and explain the significance of the past in a world of rapid change. It is our conviction that historians must enlarge their continuing interest in narrative studies with a new concern for context and for generalization if they are to play a constructive role in coming years.

Master of Arts in History

1. Requirements for Admission

Though it is desirable that an applicant have the equivalent of an undergraduate major in History, the Department also welcomes students who have previously specialized in other subject areas and who show promise of sustained and self-disciplined work in History. Typically, a minimum undergraduate grade point average of 3.0 (B) is required for admission, with evidence of better work in History. In addition, all applicants are asked to submit three letters of recommendation, aptitude and achievement scores from the Graduate Record Examination, and examples of written work in History from their undergraduate classes. Students living in Southern California must arrange to come to Irvine for an interview with the Chairman of the Department or the Coordinator of Graduate Advising.

2. Program of Study

Nine courses are required for the degree: three in History and Theory (History 200A-B-C), three in "time-place" colloquia (taken in sequence, as a unit), and three in a "focus" seminar (taken in sequence as a unit). Though it is possible to take these nine courses in one academic year, the Master's student is encouraged to proceed at the same rate as the doctoral student (see below), that is by taking History and Theory, colloquia, and electives during the first

year, and the "focus" seminar and electives during the second. Students intending to pursue the Ph.D. should begin at once to delineate doctoral interests in order to fit his work for the M.A. into the total program.

At the present time the Department offers training in three "time-place" fields and in four comparative, or "focus" fields. The former are designated as History of the Pre-industrial West, European History since 1800, and History of the United States. The latter are identified as Socio-economic History, Political History, Intellectual-cultural History, and International History. The student will work out a selection and relationship of fields with the help of an assigned departmental advisor.

3. Language Requirements
Normally a reading knowledge of one useful foreign language is required for the M.A. degree. However, an individual in American History, with his advisor's permission, may substitute a sequence of courses in communications science, statistics, or comparable studies for the M.A. foreign language requirement. Language proficiency can be demonstrated either by achieving a score of at least 500 on the appropriate ETS examination or by passing a language department test at Irvine.

4. Time Limits
Though the Department may admit a limited number of part-time M.A. students, in no case (barring an emergency) will it allow a student more than nine academic quarters in which to complete the M.A. degree.

Doctor of Philosophy in History

1. Requirements for Admission
To apply for admission to the doctoral program, the student should have completed the M.A. in History at Irvine or an equivalent institution. It would be advisable, however, for the potential doctoral student to begin his graduate work on this campus, since the doctoral student who has taken his M.A. elsewhere will be expected to enroll in the same courses required of first-year students (his greater experience will work to his advantage later, in the second and third years, in speeding him to his exams). Applications for the doctoral program, as for the Master's, should include transcripts, letters (3), papers, and scores from the Graduate Record Examination. They must be supplemented by an interview whenever possible.

2. Program of Study
The Department requires the doctoral student to prepare himself in four different, if overlapping areas:

a. The History and Theory field, which is designed to expand theoretical consciousness in a general sense.

b. The "focus" field (such as "social history," etc.), which is designed to enhance the comparing of phenomena in history (e.g., changing patterns of family structure, status arrangements) as well as to introduce the theory of relevant related disciplines (e.g., sociology).

c. The first "time-place" field (such as Europe since 1800), which is designed as a teaching field as well as the locus of the student's dissertation.

d. The second "time-place" field (such as American History), which is designed as a second teaching field.

The courses which the doctoral student is asked to take (unless he has already completed them as a Master's student) are structured so as to assist him in the development of these fields. Thus the three-quarter History and Theory course provides a background for the History and Theory field, the three-quarter "focus" seminar for the "focus" field, and the three-quarter colloquium for one or the other of the "time-place" fields. In addition, it is hoped that the research and writing required for the focus seminar will be of direct use to the student in the preparation of his dissertation. During part of this course he will be under the guidance of his "time-place" advisor as well as of the seminar director.

The Department offers the possibility of study in any one of four "focus" fields: Socio-economic History, Political History, Intellectual-cultural History, and International History. It schedules "focus" seminars in at least two of these fields in any given year.

In the realm of time and place, the Department offers fields in the History of the Pre-industrial West (ca. 500-1800 A.D.), European History since 1800, and History of the United States. It schedules colloquia in all of these historical areas during each year. (Note: The possibility does exist that, with the help of visiting or neighboring faculty, a student can define the second "time-place" field so as to encompass or emphasize periods and places which the Department does not normally cover.)

Beyond the required courses, the remainder of the student's program during six quarters of residence will consist of those colloquia, seminars, and courses in Special Studies (see below) chosen to prepare for examinations and by which the student can attain the normal academic load of three courses per quarter.

Doctoral students will be assisted by a departmental advisor in their general areas of study who will be responsible for approving defined fields, guiding them to consultant faculty, and arranging and giving examinations.

3. Language Requirements
All students, except as specified under #4 below, must demonstrate a reading knowledge of one useful foreign language no later than the end of the second year in the program. Normally, the M.A. foreign language requirement will serve, but proficiency can also be established by a score of at least 500 on the appropriate ETS exam or by passage of a language department test. Students in American History who have opted for a language substitute in completing the UCI Master's Degree will be allowed to submit this work in fulfillment of "further 'special skill' requirements" (see #4, below) and will not be subject to the time limit in achieving a foreign language competence.

4. Further "Special Skill" Requirements
These depend on the subject the student selects for the first "time-place" field:

a. An individual with a first "time-place" field in American History may either demonstrate a reading knowledge of a second useful foreign language (by achieving an ETS score of 500 or by passing a language test designed by the advisor), or complete, as a doctoral student, a sequence of courses in an area of study (e.g., communications science, statistics, com-

puter work, content analysis, linguistics) that will be useful in mastering the chosen historical fields.

b. An individual with a first "time-place" field in a non-American subject must demonstrate a reading knowledge of a second useful foreign language. This may be done either by achieving an ETS score of 500 or by passing a language test arranged by the advisor.

5. Teaching Requirements

To improve pedagogical skills, the Department requires all graduate students to complete a one-quarter course in the Teaching of History (History 285), usually at the beginning of their second year in the program. Moreover, the Department supplements this training by attempting to provide teaching assistantships or associateships to those students who wish to have them. (Those first-year students who are interested in obtaining a teaching assistantship or other financial assistance should be sure to stipulate this in their applications for admission.) In the event students do not have a teaching assistantship, the advisor can arrange for them to gain at least limited experience in lecturing, discussion-group leadership, preparation of examinations, and the planning of a course.

6. The Qualifying Examinations and Dissertation

After completing the appropriate courses and other preparatory work (normally eight to nine quarters after beginning the M.A. at Irvine, or seven to eight quarters after having entered the Ph.D. program from the outside), the student will take written examinations in the History and Theory and two "time-place" fields, and, following this, will take a qualifying oral examination in the "focus" field, first "time-place" field, and dissertation topic. After having passed these examinations, the student will be advanced to candidacy and will begin intensive work upon the dissertation. The research and writing involved in this effort can be expected to require from one to two years. At some point during that period a second "oral" will be held, focusing entirely upon the adequacy of the student's research and thesis.

HISTORY FACULTY

Arthur J. Slavin, Ph.D. University of North Carolina, *Professor of History and Chairman of the Department*

Kendall Bailes, Ph.D. Columbia University, *Assistant Professor of History*

Kenneth P. Bailey, Ph.D. University of California, Los Angeles, *Lecturer in History and Director of Teacher Education*

John P. Diggins, Ph.D. University of Southern California, *Associate Professor of History*

Richard I. Frank, Ph.D. University of California, Berkeley, *Associate Professor of History and Classics*

Lamar Mott Hill, Ph.D. University of London, *Assistant Professor of History*

Karl G. Hufbauer, Ph.D. University of California, Berkeley, *Assistant Professor of History*

Jon S. Jacobson, Ph.D. University of California, Berkeley, *Associate Professor of History*

Michael P. Johnson, Ph.D. Stanford University, *Assistant Professor of History*

Arthur J. Marder, Ph.D Harvard University, *Professor of History*

Samuel C. McCulloch, Ph.D. University of California, Los Angeles, *Professor of History*

Henry Cord Meyer, Ph.D. Yale University, *Professor of History*
Keith L. Nelson, Ph.D. University of California, Berkeley, *Associate Professor of History*
Spencer C. Olin, Jr., Ph.D. Claremont Graduate School, *Associate Professor of History*
Mark S. Poster, Ph.D. New York University, *Assistant Professor of History*
Jaime E. Rodríguez-O., Ph.D. University of Texas, *Assistant Professor of History*
J. Alan Rogers, Ph.D. University of California, Santa Barbara, *Assistant Professor of History*
Gerald T. White, Ph.D. University of California, Berkeley, *Professor of History*
Jonathan M. Wiener, Ph.D. Harvard University, *Assistant Professor of History and Sociology*

UNDERGRADUATE COURSES IN HISTORY

See page 5 for explanatory notes on course listings.

Introduction to Historical Study

29A-B-C The Formation of Modern Society (1-1-1) F, W, S
Presents a unified view of the histories of Europe, the United States, and Latin America, focusing on the general social transformation from traditional to modern, industrial society.

100 Historiography, History and Theory
These courses focus on various aspects of the historical discipline: the character of scholarship in an era, the works of particular historians, Western humanistic and scientific historiography, critical reading, and the role of social theory in historical thought. Any one of the first three courses satisfies the Historiography requirement.

100A History and Historians (1) W

100B History as Art and Science (1) F

100C Classical Historians and Historiography (1) S

100D Critical Reading of History (1)

100E History and Social Theory (1) F

The History of the Preindustrial West

110 The Ancient World
Studies in the rise of Greek cultures, their spread in the Mediterranean area and the impact of the Roman Empire; special emphasis on Christianity and the Barbarians as conquerors of classical civilization.

110A-B Hellenic and Hellenistic Greece (1-1) F, W

110C-D The Roman Empire (1-1)

110E Special Studies in Ancient History: e.g., The Imperial Bureaucracy (1)

120 Preindustrial Europe and its Expansion
A comparative survey, focusing on the social and economic bases of secular and ecclesiastical institutions.

120A The Christian Millenium: Rome and the Successor States (1) F

120B Feudal Society: Ideas and Institutions (1) W

120C Europe Transformed: The Reformation of State and Society (1)

120D The Old Regime: Modernization and its Origins (1)

121 Themes in Preindustrial History
Topical and comparative studies of western societies, focusing on:

121A Political and Constitutional History (1)

121B Social and Economic History (1) F

121C Cultural and Intellectual History (1)

121D The State System: Studies in War and Diplomacy (1)

121E Special Studies: *e.g., The 17th Century "Crisis"* **(1)**

122 Regional and National Preindustrial History
These courses focus on "modernization" in long-term perspective, with special stress on feudal systems, state-building, secularization, absolutism, and enlightened despotism.

122A England: Crown and Community in the Middle Ages (1)

122B Early Modern England: The Road to Modernization (1) S

122C France Divided: Religion and the Civil War (1)

122D France Unified: The Old Regime (1)

122E Early Modern Spain: From Unification to the Napoleonic Era (1)

122F Special Studies: e.g., Renaissance Florence, The Mediterranean World in the Age of Philip II **(1) F**

Modern European History

130A-B-C Modern and Recent Europe (1-1-1) F, W, S
A survey of European politics, diplomacy, economy, and culture since 1815.

131 Constitutional and Legal History
National governmental systems, with emphasis on parliamentary processes, systems of law, and public administration.

131A-B England: Anglo-Saxon to 1485; 1485 to the present (1-1) F, W

131C Special Studies (1)

132 Social and Economic History
Courses stress social and economic developments within single societies and across national lines.

132A Russian Society: Traditional Russia to 1687 (1)

132B Russian Society: Peter the Great to 1905 (1) S

132C Russian Society: Revolution and Soviet Society (1) S

132D Special Studies (1)

133 Intellectual and Cultural History
Courses in this series focus on the development of Western thought, with special emphasis on the period since the Enlightenment, but with attention to major traditions of the West derived from classical and medieval sources.

133A-B-C European Intellectual History Since the Enlightenment (1-1-1)

133D Western Traditions in Art and Society: the Kenneth Clark "Civilization" Films in Social Historical Context (1) S

133E The Darwinian Revolution (1) F

133F Special Studies (1) F, W

134 International History
These courses focus on the European state system, stressing diplomacy and war in the context of general, cultural, economic, and political relations.

134A-B European International History (1-1) F, W

134C-D Topics in the British Empire and Commonwealth (1-1)

134E Special Studies in International History (1) S

135 Modern European National History
These courses provide broad surveys of particular countries and also more intensive study of the ideas and institutions of particular periods.

135A-B Germany: from Bismarck to Brandt (1-1)

135C British Traditions: Ideas and Institutions from the Restoration through the Victorian Age (1) W

135D British Traditions: Ideas and Institutions in the 20th Century (1) S

135E-F Russia (1-1)
See also History 132A-B-C

135G Modern Spain: Liberalism, Ideology, and Dictatorship (1)

135H Special Studies: e.g., Edwardian Society, England, 1901-1914; German Society in the 18th Century (1) F, S

Latin American History

153A-B History of Mexico (1-1) F, W
A social and cultural history from pre-Columbian civilization through the emergence of a colonial society with European institutions; independence and the search for stability; the Revolution of 1910 and the development of revolutionary social programs.

153C Special Studies (1)

American History

160 The Development of the Nation
The growth and development of a distinctively American society out of the colonial heritage, with emphasis on the social and economic bases of culture and politics, sectionalism, industrialization, and the U.S. as a world power.

160A Colonial America (1) W

160B The American Revolution and the New Nation (1) S

160C Civil War and Reconstruction (1)

160D The Age of Industry (1) F

160E U.S. in the 20th Century (1) W

161 American Political and Constitutional History

161A Structure and Development of American Politics (1)

161B The Supreme Court and Social Change (1)

162 American Social and Economic History
These courses focus on race, class, ideology, modernization, and reform movements, with special emphasis on social process and social stratification.

162A Race, Class, and Modernization: The South (1) S

162B Race, Class, and Modernization: California (1) S

162C-D Limits of Reform in Modern America (1-1) F, W

162E Special Studies: The 'new' social history, stressing families, urban and rural society, occupational and geographic mobility (1) F

163 American Intellectual and Cultural History
Analysis of the ideas, belief-system, and values apparent in the nation's past.

163A-B-C American Intellectual History (1-1-1) F, W, S

163D American National Character (1)

164 The History of American Foreign Relations
Studies of the evolving relationship between America and the world, with emphasis on the use and abuse of power.

164A-B The Development of American Foreign Relations (1-1)

164C Imperialism in American History (1) W

165 Regional Studies in American History

165A The Ante-bellum South (1)

165B The Post-bellum South (1)

165C The Southwest (1)

165D California in Modern America (1)

Comparative History

180 Topics in Comparative and Social History
These courses provide an opportunity for intensive study of certain problems and concerns arising out of the department's core course, "The Formation of Modern Society."

180A War and Social Change: Germany, Britain, America (1)

180B Science in Different Cultures (1) S

180C America in World Perspective (1)

180D The Military-Industrial Complex in Comparative Perspective (1)

180E The Family and Industrialization (1)

180F Economic Organization in Industrial Societies (1) S

180G Birth of the Nuclear Age (1) W

Also, we wish to call attention to the following courses, all of which are concerned with either comparative history, social history, or the history of modernization: 120B-C-D, 121B, 130A-B, 160D, 162A-B-C-D-E, and 164D.

Senior Studies and Special Programs

The Senior Project forms the heart of the student's experience of historical study. Students should prepare for it by consulting their advisors on preparatory sequences, especially the "Special Studies" colloquia and their relationship to lecture-discussion courses and independent study units.

190A-B Senior Project (1-1) 190A (F, W), 190B (W, S)

195 Special Studies for Secondary School Teachers (1) F, W, S

197 Special Projects (1) F, W, S

198 Experimental Group Study (1) F, W, S

199 Independent Reading (1) F, W, S

GRADUATE COURSES IN HISTORY

In addition to the following courses, graduate students in History might find these Humanities courses of special interest: Humanities 210 (Topics and Methods in Linguistics), Humanities 220 (Literary Theory), and Humanities 230 (Philosophical Analysis).

History and Theory

200A-B-C History and Theory (1-1-1)
An introduction to the nature of History, focusing on the role of generalization in historical writing and the relationship of the discipline to "climates of opinion." Attention will be devoted to the sources and the testing of specific hypotheses and models. History 200A is cross-listed as Humanities 200.

Colloquia

220A-B-C The Literature and Interpretations of Pre-Industrial Europe (1-1-1)
First quarter: The Middle Ages; Second quarter: Renaissance and Reformation; Third quarter: 17th and 18th Centuries.

230A-B-C The Literature and Interpretations of Modern European History (1-1-1)
First quarter: 19th Century; second quarter: Early 20th Century; third quarter: Mid-20th Century.

260A-B-C The Literature and Interpretations of American History (1-1-1)
First quarter: The 17th and 18th Centuries; second quarter: The 19th Century; third quarter: The 20th Century.

"Focus" Seminars

280A-B-C Seminar in Socio-economic History (1-1-1)

281A-B-C Seminar in Political History (1-1-1)

282A-B-C Seminar in Intellectual-cultural History (1-1-1)

283A-B-C Seminar in International History (1-1-1)

Special Studies

285 Teaching History (1) F, W, S
An examination of the problems and challenges involved in successfully introducing history to students. The course will include practice in lecturing and discussion as well as experimentation with more radical teaching techniques.

290 Special Topics (1) F, W, S
Lectures, readings, and discussion on subjects more limited in scope than those included in the year-long colloquia.

291 Directed Reading
By consent. May be repeated.

295 Special Methods (1) F, W, S
Courses designed to develop particular research skills.

299 Directed Research (1) F, W, S
By consent. May be repeated.

329A-B-C Practicum in Teaching (1-1-1) F, W, S
A course required of all teaching assistants. May be repeated.

language laboratory

The Language Laboratory offers courses in a number of modern languages on a self-instructional basis. These courses are typically numbered K1A, K1B, and K1C, offered in three one-quarter sequences. The bulk of the work is done in the Language Laboratory with prerecorded dialogues, grammar drills, and cultural units, accompanied by student textbooks and workbooks. Each student is expected to attend the Language Laboratory a minimum of one hour daily. The students, working at their own pace, are then examined on a regular weekly basis in one or more live contact hours with UCI faculty proficient in the given language. Even though these are basically self-instructional courses, students can receive full credit and will be given recorded grades by the testing teams on the termination of each quarter's work.

The courses offered by the Language Laboratory are:

ESL (English as a Second Language) K1A, K1B, K1C; Hebrew K1A, K1B, K1C; Spanish K1A, K1B, K1C; Swahili K1A, K1B, K1C.

These are typically run in the normal sequence of fall, winter, and spring. However, students are allowed to pace themselves either more rapidly or more slowly as their time and talents permit.

program in linguistics

Linguistics is a field of study with potential relationships with several disciplines concerned with language. Because of these various possibilities in emphasis and because linguistic studies are on the edge of territory as yet unexplored and therefore without precedent, the linguistic group in the School of Humanities has formulated programs which are highly flexible.

Students are encouraged to enroll in linguistic courses with varying perspectives and counsel with faculty across schools and departments. The student obtaining a B.A. in linguistics is expected to have some awareness of linguistic work beyond his own specialization.

The requirements of the program are designed to provide guidelines sufficient to give direction; each student's program will be an individual development between the student and his discipline. Although the program is suggested for those students who are primarily interested in the emphasis of language in their linguistic studies, if a student has an innovative idea for a course of study that would not follow this general plan, he may propose his plan to his advisors and petition for a change in the requirements. It is assumed that this would occur after finishing the core courses (Linguistics 50, 101, 102, 103).

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: See page 143.

Program Requirements

1. Linguistics 50, 101, 102, 103.
2. Four additional upper-division courses in linguistics such as: Psycholinguistics; Socio-linguistics; Anthropological linguistics; Mathematical linguistics; Philosophy of Language; Field Methods; Formal Grammars; Semantics; Linguistics and Poetics; History of the English, French, German, Russian, or Spanish language; Logic; and others as offered from time to time which are linguistically oriented. Note that these are offered in other Schools, particularly by the School of Social Sciences, the Program in Comparative Culture, and the Department of Information and Computer Sciences.
3. Three courses beyond 2C in a single foreign language.
4. One of the following:

   (a) three courses in a non-Indo-European language, or

   (b) three courses in Latin or Greek.

In the case of a student taking Greek or Latin beyond 2C to fulfill requirement 3, three courses of a modern foreign language must be substituted to fulfill this requirement. Students may also elect to major in one of the foreign languages with a linguistics emphasis. Consult program requirements in Classics, French, German, Russian, and Spanish.

FACULTY OF THE PROGRAM IN LINGUISTICS

Howard A. Appel, M.S. University of Washington, *Teacher Education — Foreign Languages, Lecturer in French.*
Richard Barrutia, Ph.D. University of Texas, *Professor of Spanish*
Peter Colaclides, Ph.D. University of Athens, *Professor of Classics*
Henri Diament, Ph.D. Columbia University, *Assistant Professor of French*
Jared Gordon, Ph.D. University of California, Los Angeles, *Assistant Professor of Russian*
Mary Ritchie Key, Ph.D. University of Texas, *Associate Professor of Linguistics*
Tracy D. Terrell, Ph.D. University of Texas, *Assistant Professor of Spanish*
William D. Truesdell, Ph.D. Brown University, *Assistant Professor of Spanish*

COURSES IN LINGUISTICS

See page 5 for explanatory notes on course listings.

50 Introduction to Linguistics (1) F, W, S
Beginning course surveying the scope of linguistics. Linguistic analysis and language structures illustrated by languages from many areas of the world. (Linguistics 50 and Social Science 3 may not both be taken for credit, but either satisfies the prerequisite for upper-division courses in linguistics or social science.)

101 Linguistic Analysis I: Articulatory Phonetics, Phonology, and Morphology (1) W
Practice in the transcription of phonetic phenomena in various languages of the world. Phonological & morphological analysis of data from a wide variety of languages. Prerequisite: Linguistics 50 or consent of instructor.

102 Linguistic Analysis II: Syntax, Semantics, and Linguistic Theory (1) F
Methods of analysis on utterances larger than the word. These include phrase types and clause types, as well as sentences. Recent developments and major problems in syntactic and semantic theories. Prerequisite: Linguistics 50 or consent of instructor; same as Social Science 141A.

103 Linguistic Change and Language Comparison (1) S
An introduction to the methods of historical analysis of language. The classification of languages and aspects of language change studied by internal reconstruction and the comparative method. Prerequisite: Linguistics 50 or consent of instructor.

150 Studies in Linguistics (1) F, W, S
Topic varies depending upon availability and interest of staff.

151 Phonological Analysis (1) S
A continuation of Linguistics 101. Problems in the analysis of phonetic data from a wide variety of languages. Introduction to problems in phonological theory. Prerequisite: Linguistics 101.

163 Semantics and Linguistic Theory (1) W
Analysis of various proposals for the treatment of semantics in an integrated linguistic theory. Prerequisite: Linguistics 50; 102; or consent of instructor.

170 Socio-Linguistics (1) S
Socio-linguistic varieties of language examined from different points of view: geographical, temporal, and cultural. (Same as Social Science 180J.)

171 American Dialects (1)
Development of the English Language in America since the 17th Century. Contact with other languages: American Indian languages, African languages, etc. Prerequisite: Linguistics 50; 101 recommended. Not offered 1973-74.

173 Phonological Theory (1)
Bloomfieldian and post-Bloomfieldian phonemics; Prague school; generative phono-

logical theories. Current issues: rule ordering, abstractness, etc. Prerequisites: Linguistics 50, 101. Not offered 1973-74.

175 Paralanguage and Kinesics (1) S
Channels of non-verbal communication which correlate with speech. Extra-speech sounds and body movements. (Same as Social Science 180K.)

190 Directed Reading (1)

199 Individual Study (1)

200 Studies in Linguistics (1)
Topic varies depending upon availability and interest of staff.

250A-B Romance Linguistics (1-1)
Historical development of modern Romance languages from Vulgar Latin. Taught in English. Prerequisites: Fundamentals of Latin; knowledge of French, Spanish, or Italian.

ADDITIONAL LINGUISTICS COURSES

Classics

Full undergraduate offerings in Greek and Latin.

English

English 181 The Structure of English (1)

English 184 History of the English Language (1)

English 187 Selected Topics in English Linguistics (1)

English 200 Selected Topics in English Linguistics (1)

French

French 11 Phonetics (1)

French 131 Senior Seminar in Linguistics (1)

French 200 Selected Topics in French Linguistics (1)

French 201 History of the French Language (1)

French 202 Contrastive French Phonology (1)

French 203 Contrastive French Morphology and Syntax (1)

French 208 Stylistics (1)

German

German 100A Contrastive Phonetics of German and English (1)

German 180 Structure and History of the German Language (1)

German 220 Selected Topics in Germanic Linguistics (1)

Humanities

Humanities 200 Topics and Methods in Linguistics (1)

Humanities 291 Linguistics and Poetics (1)

Philosophy

Philosophy 135 Philosophy of Language (1)

Russian

Russian 180 Tolstoy in Translation (1) W

Russian 200 Selected Topics in Russian Linguistics (1)

Spanish

Spanish 11 Contrastive Phonetics of Spanish and English (1)
Spanish 187 Selected Topics in Spanish Linguistics (1)
Spanish 200 Selected Topics in Spanish Linguistics (1)
Spanish 201 History of the Spanish Language (1)
Spanish 204 Transformational Grammar (1)
Spanish 205 Spanish Dialectology (1)
Spanish 250A-B Romance Linguistics (1-1)

Social Science

Social Science 3 Introduction to Cognitive Linguistics (1)
Social Science 50A Acquisition of Language (1)
Social Science 141A Introduction to Syntax (1)
Social Science 141B Formal Models of Linguistics (1)
Social Science 142A Introduction to Psycho-Linguistics (1)
Social Science 142B Language and Thinking (1)
Social Science 142C Project and Child Language (1)

department of philosophy

Philosophy addresses itself to questions that arise insistently in every area of human experience and in every discipline within the University. Each discipline inevitably poses problems concerning the nature of the standards appropriate to it and the place of its subject matter within the total framework of human knowledge. If we are to understand science or art or literature, or such human practices as morality and religion, we are bound to address ourselves to philosophical issues relating to their nature, the uses of reason appropriate to them, and the contributions they make to our understanding and appreciation of ourselves and the world in which we live.

UNDERGRADUATE PROGRAM

Instruction in philosophy relies essentially upon discussion in which students are active participants. Wherever possible, therefore, classes are severely limited in size in order to permit sustained dialogues between student and instructor.

Some of the courses offered are of general interest to all students. Others are designed to explore issues that arise in selected and special disciplines. Among these are courses in the philosophy of science and of art. The staff should be consulted for advice about courses best suited to the specialized needs of particular students.

The program of course offerings is also designed for those majors in philosophy whose intention may be either to enter some professional school upon graduation (e.g., law) or to engage in graduate work in philosophy.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: See page 143.

Departmental Requirements

Philosophy 20A-B-C, 50. Two of the following: Philosophy 100A-B, 110A-B, 115A-B. Two additional quarter courses from Philosophy 101-199.

GRADUATE PROGRAMS

Students are encouraged to seek the counsel of any and all members of the Department whose recommendations the student would deem helpful. It is hoped that there will be a close intellectual relationship between graduate student and professor in order to provide the student with optimum conditions for philosophical development and to expedite his progress toward advanced degrees. In addition, the Department sponsors a series of colloquia each year. Participation in these colloquia is an important part of the graduate student's training.

Master of Arts in Philosophy

There is no list of course requirements for the M.A. degree. The M.A. program in Philosophy minimally takes one year. The student may elect to follow either of the following routes to the degree: write a thesis on a subject to be chosen on consultation with his advisor and defend his thesis in an oral examination, *or* satisfy the Logic, History of Philosophy, and Portfolio requirements for the Ph.D. (see below).

Application for admission to candidacy for the M.A. degree is not automatic, but requires formal application to the Dean of the Graduate Division via the Philosophy Department Office. Application must be made with the recommendation of the Philosophy Department and should take place at the beginning of the quarter in which the student is expected to complete the requirements listed above.

Doctor of Philosophy in Philosophy

There is no set number of courses required for the Ph.D., thus allowing course work to be tailored to the individual student's needs and interests. However, as a prerequisite for the Ph.D. degree, every student is required to have some experience in teaching.

The Ph.D. program is designed to take four years for the normally qualified student. In exceptional cases it may be possible to obtain the degree within three years. A Master's Degree is not a prerequisite for the Ph.D. The requirements for the Ph.D. degree are as follows:

Tools of research, to be satisfied by demonstrating proficiency in a single appropriate foreign language* *or* by passing with a grade of B or better five to six courses at the graduate level in a discipline or disciplines outside of the Philosophy Department. Approval for the latter alternative will be granted by the Department only if, in its judgment, the courses form an integrated unit in light of the student's research interest.

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*The foreign language examinations are administered by the Department of Philosophy. They are two hours in length and consist of translating, with the aid of a dictionary, passages from two books. Students wishing information as to courses to prepare them for these examinations and dates when these examinations will be given should consult the Philosophy Department Office, Room 500 of the Humanities Office Building (833-6526).

Logic, to be satisfied by passing Philosophy 152 with a grade of B or better *or* by passing an examination on equivalent material upon petition. (The Department must grant the petition; it is required in order to allow the Department sufficient time to prepare the examination.)

Portfolio of papers representing the student's best work in philosophy. The papers may be, or may be based upon, essays written for course work. The topics of the papers will range over a number of fields in philosophy as well as over at least three of the following historical periods: Ancient, Medieval, Early Modern, Kant and 19th Century, and 20th Century. Examples of fields in philosophy are metaphysics, epistemology, ethics, political philosophy, philosophy of religion, philosophy of science, aesthetics, and so on. Papers will be evaluated by the faculty for the purpose of determining whether or not the student is ready to seek admission to candidacy.

Admission to candidacy and the writing of a thesis. Upon successful completion of the above requirements, the student will apply for admission to candidacy for the Ph.D. degree by filling out the appropriate forms and returning them to the Philosophy Department office. A Candidacy Committee including one or two members from an academic area outside of Philosophy is then appointed by the Graduate Council. This Committee administers an oral examination to determine whether the student is qualified to begin work designed to lead to the completion of a thesis.

Upon passing this oral examination, the student becomes a candidate for the Ph.D. degree and will be assigned to the Doctoral Committee by the Graduate Council. The Doctoral Committee then supervises the student's further course work and research, as well as the actual writing of the doctoral thesis.

The defense of the thesis. At a suitable point during the development of the thesis, the Doctoral Committee administers an oral examination, the focus of which is the content of the thesis itself. If at all possible, this examination will be given while the student is still in residence.

PHILOSOPHY FACULTY

Gordon G. Brittan, Ph.D. Stanford University, *Associate Professor of Philosophy*
Richard Holzman, *Acting Assistant Professor of Philosophy*
Joseph F. Lambert, Ph.D. Michigan State University, *Professor of Philosophy*
A.I. Melden, Ph.D. University of California, Berkeley, *Professor of Philosophy*
Nelson C. Pike, Ph.D. Harvard University, *Professor of Philosophy*
Gerasimos Santas, Ph.D. Cornell University, *Professor of Philosophy*
Guy J. Sircello, Ph.D. Columbia University, *Associate Professor of Philosophy*
David W. Smith, Ph.D. Stanford University, *Assistant Professor of Philosophy*
William Ulrich, *Acting Assistant Professor of Philosophy*
Peter Woodruff, Ph.D. University of Pittsburgh, *Assistant Professor of Philosophy*

UNDERGRADUATE COURSES IN PHILOSOPHY

See page 5 for explanatory notes on course listings.

5 Problems of Philosophy (1) F, W, S
This course varies in content and structure from quarter to quarter. A central aim is to introduce students to certain basic philosophical problems and concepts, methods, and techniques, with an emphasis on both discussion and writing.

7 Introduction to Phenomenology and Existentialism (1) F
Introductory study of phenomenology and existentialism: their doctrines, their connections and disconnections, philosophical backgrounds, contributions to traditional disciplines, e.g., metaphysics, epistemology, ethics, and to other disciplines, e.g., psychology, social science, literature, religion.

15 Introduction to Ethics (1) F, S
Studies of selected writings from the history of ethics. Problems dealt with include the nature of the good life and the moral justification of conduct.

20A History of Ancient Philosophy (1) F
An examination of the central philosophical themes about man, society, and nature in the Pre-Socratics, Socrates, Plato, Aristotle, the Stoics, Epicureans, and the Skeptics.

20B History of Medieval Philosophy (1) W
The purpose of this course is to introduce the student to the more important thinkers of the Middle Ages (approximately 400-1400 A.D.) and their respective philosophical systems. Prerequisite: Philosophy 20A.

20C History of Modern Philosophy (1) S
A study of some major developments in Western Philosophy from Descartes to Kant. Attention is focused on Kant's theory of time and space and on Berkeley's phenomenalism. Readings from Descartes, Leibniz, Locke, Berkeley, Hume, and Kant. Prerequisite: Philosophy 20B.

50 Introduction to Logic: The Nature of Argument (1) F, W, S
The course is divided into three stages. In the first stage the nature and kind of arguments and their connection with inference is discussed. The second stage concentrates on identifying and extracting arguments both in everyday life situations and more technical contexts. The third stage introduces and applies examples of some simple procedures for evaluating arguments.

Unless otherwise specified, one course in philosophy is required as a prerequisite for each of the following courses. In special cases the requirement may be waived. Inquiries should be directed to the staff.

100A-B Metaphysics (1-1) F, W
A study of the nature of reality and existence, dealing with such problems as substance, free will, abstract objects, identity; 100A prerequisite for 100B. No credit given for 100A without completion of 100B.

110A-B Theory of Knowledge (1-1) W, S
An examination of the central problems of theory of knowledge: the role of perception in the acquisition of knowledge, the nature of evidence and the distinction between knowledge and belief, and the nature of truth and certainty; 110A is prerequisite for 110B. No credit given for 110A without completion of 110B.

115A-B Ethics (1-1) W, S
Selected topics from recent moral philosophy, such as the naturalistic fallacy, the distinction between "is" and "ought," rule and act utilitarianism; 115A is prerequisite for 115B. No credit given for 115A without completion of 115B.

117 Political Philosphy (1) F
An examination of some of the central problems in Political Philosophy. Some of the problems treated will be: the justification and limits of legitimate authority; the notion of an ideal state; and the meaning of political liberty and obligation.

121 Plato (1) W
A discussion of the central subjects in Plato's Dialogues, including Socratic questions, Socratic ethics, Platonic ethics and social philosophy, Plato's theory of ideas, and his views on knowledge and perception, language and art. Lectures and student participation. Prerequisite: Philosophy 20A or consent of instructor.

122 Aristotle (1)
The basics of Aristotle's philosophy: his philosophy of language, logic, epistemology, philosophy of nature, metaphysics, ethics, and philosophy of art.

125 Medieval Philosophy (1)
This course is intended to familiarize the student with more specific areas of medieval philosophy. To this end, a particular problem, such as that of universals, will be studied in some depth. Prerequisite: Philosophy 20B or consent of instructor.

126 Continental Rationalism (1) S
A detailed review of representative works of the more outstanding continental rationalists: Descartes, Malebranche, Leibniz, and Spinoza. Prerequisite: Philosophy 20C or consent of instructor.

127A-B British Empiricism (1-1)
An examination of the writings of Locke, Berkeley, and Hume with special attention to the problems of substance, perception, and knowledge. Prerequisite: Philosophy 20C or consent of instructor.

128 Kant (1) S
Typically a fairly close reading of the first half of the *Critique of Pure Reason.* Prerequisite: Philosophy 20C or consent of instructor.

129 Hegel (1)
An intensive and analytical study of selected portions of *The Phenomenology of Mind.* Prerequisite: Philosophy 20C.

130 Philosophy of Mind (1)
An examination of such psychological concepts as motive, intention, desire, memory, intelligence, belief. Prerequisite: Philosophy 50 or consent of instructor.

132 Phenomenology (1) W
Foundations of phenomenology in Husserl. Backgrounds in Blozano, Frege, Brentano, Meinong, Kant, Descartes. Topics include: phenomenological method, theory of intentionality, meaning, perception, evidence, ego, other persons, intersubjectivity, life-world. Readings primarily in works of Husserl.

133 Existentialism (1) S
Detailed study of Heidegger and Sartre, with their backgrounds in phenomenology. Prerequisite: Philosophy 132 or Philosophy 7.

135 Philosophy of Language (1) W
A critical exploration of selected topics in Philosophy of Language such as Reference and Speech Act theories and theories of meaning. Prerequisite: Philosophy 50 or consent of instructor.

140 Philosophy of History (1)
The analysis of issues such as the relativity of historical knowledge, the place of moral judgments in historical writing, the nature of historical explanation, and the "meaning" of history. Prerequisite: Philosophy 50 or consent of the instructor.

143 The State and the Individual (1) W
An examination of some of the standard issues in social and political theory. Included will be such questions as the concept of human nature, the relationship between the individual and the state and society, human freedom, and revolution. Readings will include Plato, Marx, Mill, and others.

145 Social and Political Philosophy (1) F
A philosophical probe of the concept of Civil Disobedience. Attention is focused on the defining features of civilly disobedient behavior with some discussion of the contract theory of the state, the concept of natural law and the Nuremberg Principles. Readings from the works of Plato, Sophocles, Henry Thoreau, Martin Luther King, M.K. Gandhi, Bertrand Russell, and a number of legal commentators such as Harrison Tweed, Charles Black, and Abraham Fortas.

146 American Philosophy (1)
This course examines the work of a major American philosopher such as Peirce, James, Dewey, Lewis, Sellars, or Quine.

150 Intermediate Logic I F
An intensive introduction to methods of proof in formal logic, covering the standard

propositional and quantificational calculi, the theory of identity, and theory of descriptions.

151 Intermediate Logic II W
A study of the proof theory and model theory for propositional logic. Prerequisite: Philosophy 150.

152 Intermediate Logic III S
A study of the proof theory and model theory for the logic of quantifiers with identity. Prerequisite: Philosophy 151.

153 Topics in Mathematical Logic (1)
A selected topic in advanced mathematical logic will be discussed. Typical examples are proof theory, model theory, recursive functions, set theory, combinatory logic. Prerequisite: Philosophy 152 or consent of instructor.

155 Philosophy of Logic (1) S
An examination of fundamental questions raised by contemporary formal logic. Topics include the existence and nature of propositions, theory of entailment, descriptions and existential presuppositions. Prerequisite: Consent of instructor.

160 Introduction to Philosophy of Science (1) W
Systematic examination of leading problems in the philosophy of science, for example, the nature of mathematics, explanation, confirmation, and the limits of scientific explanation.

164 Christian Mysticism (1) F
A study of classical Christian mysticism with special emphasis on the phenomenological features of mystical experience. Readings from St. Bernard of Clairvaux, St. Teresa of Avila, St. John of the Cross, Julian of Norwich, and others. Some attention will be paid to the relations between Western and Eastern mysticism and to the question of whether mystical experience can be produced with the use of psychedelic drugs.

165 Philosophy of Religion (1)
A philosophical inquiry into the nature and existence of God. Attention is focused on the literature of Western mysticism and Judeo-Christian theology. Topics include the phenomenology of religious experience, the attributes of God, and the traditional arguments for and against the existence of a Divine Being. Readings include the works of Rudolf Otto, St. Anselm, St. Thomas, David Hume, William Paley.

166 Topics in Philosophical Theology (1)
An intensive examination of one or more traditional problems in the Philosophy of Religion, such as the problem of evil, the argument from design, the concept of omnipotence, etc. Prerequisite: Philosophy 165 (this course may be taken for credit more than once).

170 Introduction to Aesthetics (1)
A sustained analytical inquiry into (1) the expressiveness of art, (2) the subjectivity of aesthetic experience, and (3) the nature of aesthetic "response."

171 Theory of Art (1)
Interpretation and evaluation of some traditional and recent metaphysical theories of art including those of Plato, Aristotle, Plotinus, Hegel, Schopenhauer, Dewey, Heidegger, and Sartre.

175 Philosophy of Education (1)
Same as Education 175. Theories of education, past and present. The aims and methods of education. The philosophical assumptions about the nature of man and the nature of human knowledge on which theories of education are based.

180 Contemporary Philosophy (1) F
A selected topic (such as the theory of perception) will be discussed from the analytic point of view, with consideration of the views of contemporary philosophers on the subject. May be repeated for credit.

190 Topics in Current Research (1)

198 Senior Proseminar (1)

199 Directed Special Studies (1)

GRADUATE COURSES IN PHILOSOPHY

Since seminar and graduate course topics vary with the occasions on which they are offered, they may be repeated for credit. Open to graduate students and upper-division undergraduates by consent of instructor.

In addition to the following courses, graduate students in Philosophy might find these Humanities courses of special interest: Humanities 200 (History of Theory and Analysis), Humanities 210 (Topics and Methods in Linguistics), and Humanities 220 (Literary Theory).

200 Seminar in Metaphysics (1)

210 Seminar in Theory of Knowledge (1)

215 Seminar in Ethics (1) S

217 Seminar in Political Philosophy (1) S

220 Seminar in History of Philosophy (1) F, W

221 Seminar in Philosophy of Plato (1)

222 Seminar in Philosophy of Aristotle (1) S

228 Seminar in Philosophy of Kant (1)

230 Seminar in Philosophy of Mind (1)

232 Seminar in Phenomenology (1) S

235 Seminar in Philosophy of Language (1)

250 Seminar in Logic (1) W

252 Seminar in Set Theory (1)

255 Seminar in Philosophy of Logic (1) F

260 Seminar in Philosophy of Science (1)

265 Seminar in Philosophy of Religion (1)

270 Seminar Topics in Aesthetics (1) F

280 Seminar in Contemporary Philosophy (1) S

299 Directed Research (1) F, W, S

399 University Teacher Training (1)

program in russian

Russian is a language spoken by 220 million people in the Soviet Union and ranks with English and Chinese as one of the three major world languages. Russian is a language of the Indo-European family and is thus related to English, French, and German. Russian is difficult, but not in the way so many potential students envisage. It is an infinitely rich language, as is English, and adapts itself well to a variety of styles and genres from lyric love poetry to the seeming harshness and brashness of the futurists.

For the first two years the Program in Russian emphasizes a reading knowledge of literary Russian. In the latter part of the second year, and thereafter, the speaking and writing skills are emphasized. At the end of his senior year, the student can expect to have attained a rather high level of proficiency

in all language skills – reading, writing, speaking, and understanding. By then he will have read a number of selected literary texts – including a fair portion of the significant masterworks – in the original. He will also have familiarized himself with some of the historical background of the language and with its relation to other Slavic and European languages. And he will have achieved a reasonable degree of familiarity with the major cultural and social trends in Russian history.

In addition to the regular Russian major with emphasis on language and literature, the Program in Russian offers a modified major with emphasis on linguistics. This major was designed for those students who have no plans to pursue advanced study in Russian literature, while they wish to focus on the study of the structure of Russian viewed within the framework of Slavic and general linguistics.

Students planning to major in Russian should obtain a copy of the brochure "Russian Language and Literature at UCI" from the office of the Program in Russian.

Students entering UCI with previous training in Russian will be given advanced standing as follows: In general, one year of high school work is equated with one quarter of UCI work. Thus, students with one, two, three, and four years of high school Russian will enroll in Russian 1B, 1C, 2A, and 2B respectively. Exceptions to this ruling can be made but must have the approval of the Program Director. Students with high school training in Russian are encouraged to consult with the Russian staff before enrolling in Russian courses.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: See page 143.

Departmental Requirements

The Russian major consists of the following 12 courses: Russian 100A-B-C; 101A-B-C; 151A-B; 160A-B; any one of the following: Russian 155, 180, 181. In addition, it is strongly recommended that the student take or audit Linguistics 50, and Russian 150A-B-C, 180, 181, and 20A-B. The Russian major with emphasis on linguistics consists of the following 12 courses: 100A-B-C; 101A-B-C; two courses from 151A-B-C and 160A-B; Linguistics 50; 101; 102; 103.

Planning a Program of Study

The Program in Russian believes in close consultation with students on academic advising, program planning, and discussion of goals and direction. Students planning to major in Russian with an emphasis in literature or in linguistics are strongly urged to consult with the departmental faculty as early as possible, in order to familiarize themselves with the nature of the various programs, including the proposed interdisciplinary major in Russian and East European Studies.

Career Opportunities

The major in Russian can lead to the following careers: in education (in high school teaching, or, after appropriate graduate study, on the college and uni-

versity levels); with the Federal Government (where there are a number of openings in such agencies as the Department of State, Department of Defense, Department of Health, Education and Welfare, the US Information Office, and the Library of Congress for translators and other positions requiring the knowledge of Russian); a career as interpreter or translator with private institutions; various careers in science and technology; library science; communications media (thus, the United States Information Agency's Voice of America offers many opportunities for Russian speakers: research, scriptwriting, editing, translating, and announcing); careers in private business corporations have been paying increased attention to the developing rhythm of contacts with the Soviet Union and are hiring college graduates with a knowledge of Russian.

However, it is not the essential purpose of a major program in Russian language and literature to provide specific vocational skills. The study of Russian literature and civilization is primarily viewed as a valuable component of a liberal education; a knowledge of Russian literature, history, philosophy, and science provides an extremely important instrument for the investigation and appreciation of the modern world.

RUSSIAN FACULTY

Guy de Mallac-Sauzier, Ph.D. Cornell University, *Associate Professor of Russian and Director, Program in Russian*
Jared Gordon, Ph.D. University of California, Los Angeles, *Assistant Professor of Russian*
Michael A. Green, Ph.D. University of California, Los Angeles, *Assistant Professor of Russian*
Rainer Vadim Grenewitz, Ph.D. Cornell University, *Assistant Professor of Russian*
Helen Weil, M.A., California State University, San Diego, *Lecturer in Russian*

LOWER-DIVISION COURSES IN RUSSIAN

See page 5 for explanatory notes on course listings.

1A-B-C Fundamentals of the Russian Language (1-1-1) F, W, S
The course focuses on reading, comprehension, basic composition and conversation skills, and gives the student an initial exposure to the Russian cultural scene.

2A-B-C Second-year Language Study (1-1-1) F, W, S
The student can expect to read simple passages from contemporary Russian literary texts and newspapers. Development of oral skills and exposure to Russian culture continue.

UPPER-DIVISION COURSES IN RUSSIAN

100A-B Third-year Language Study (1-1) F, W
A continuation of the second-year program, with added emphasis on oral skills.

100C Phonetics and Review Grammar (1) S
A linguistic introduction to the sounds and intonation of Russian. The grammar will concentrate only on some of the more difficult points. Linguistics 50 is a strongly recommended precursor to this course.

101A-B Fourth-year Language Study (1-1) F, W
Original literature is read, and conversation and composition are in Russian.

101C The History and Development of the Russian Literary Language (1) S
A brief philological introduction, eleventh-twentieth century readings. Modern

style will be analyzed from the viewpoint of previous changes in the language.

120 Russian Civilization (1) W
Devoted to the definition of Russian culture from the medieval to the modern period, with attention to historical, literary, political, and philosophical interpretations.

150A Russian Literature 1825-1880 (In Translation) (1) F
Reading of selected prose masterpieces, investigating the dilemma of the Russian writer, caught between the demands of his art and the function Russian society expected him to fulfill. Lectures, readings, and discussions in English.

150B Russian Literature 1880-1920 (In Translation) (1) W
An exploration of the new trends of the period 1880-1920, which saw the emergence of Symbolist writing, and of the decadent and Futurist movements. Lectures, readings, and discussions in English.

150C Russian Literature of the Soviet Period (In Translation) (1) S
An investigation of the topic "Literature and Revolution," focusing upon the role of the writer in a revolutionary society. Lectures, readings, and discussions in English.

151A Russian Prose 1800-1865 (In Russian) (1) F
The first course in a three-quarter sequence covering representative examples of Russian fiction. Class discussion conducted largely in Russian.

151B Russian Prose 1865-1910 (In Russian) (1) W

151C Russian and Soviet Prose 1910-present (In Russian) (1)

155 Russian Stage and Film Drama in Translation (1) F
The course will trace the development of the Russian theater through the Symbolist drama to Futurism and the post-Revolutionary era. Attention will be paid to the innovation of 20th-century stage directors, and masterpieces of the Soviet cinema will be viewed and discussed. Open to freshmen. Lectures, readings and discussions in English.

158 Introduction to Slavic Literatures (In Translation) (1)
A comparative discussion of representative texts of Slavic (notably Czech and Polish) literatures, with reference to relevant texts in Russian literature. The focus is on selected major works. Lectures, readings, and discussions in English.

160A Russian Poetry of the Golden Age (In Russian) (1) F
A discussion of some of the poetry written before Pushkin, as well as of texts by major 19th-century poets.

160B Russian Poetry 1880-present (In Russian) (1)

170 Russian Literary Criticism (In Translation) (1)
A discussion of the main trends of literary criticism in Russia, from the "social" school of criticism to the views of Trotsky and the Russian Formalists.

180 Tolstoy in Translation (1) W
Topic for 1973-74: Intensive reading and discussion of *War and Peace,* with particular regard to the relation between the novelistic content of the work and its ideological intentions. Open to freshmen. Lectures, readings, and discussions in English.

181 Dostoevsky in Translation (1) S
Is there existential anguish in Dostoevsky? An examination of his views on the problems of man, justice and redemption. This course may be taken more than once, if topic changes. Open to Freshmen. Lectures, readings, and discussions in English.

199 Special Studies in Russian (1)
By consent. May be repeated.

200 Selected Topics in Russian Linguistics (1)

220 Studies in Russian Literature (1)

290 Reading and Conference (1)

291 Guided Reading Course (1)

department of spanish and portuguese

The main objectives of the program in Spanish and Portuguese are: to develop competence in the ability to understand, speak, read, and write Spanish and Portuguese; to provide through the knowledge of these two languages an understanding and appreciation of their literature and culture.

Students are placed in Spanish courses according to their years of previous study and their grades. In general, one year of high school work is equated with one quarter of UCI work.

All courses in Spanish and Portuguese, unless specifically stated, are taught in the foreign language. First-year courses meet in the classroom four times a week and in the language laboratory twice a week. By the end of the first year, students attain mastery of the basic structure of the language and ability to converse on everyday topics as well as to read and write on an elementary plane. Self-instructional courses in both Spanish and Portuguese are also available.

In the second year, emphasis is put on gradually raising the level of the student's ability to read and write. A third-year course of two quarters stresses composition as opposed to translation. Further, a course in phonetics perfects pronunciation, introduces theoretical considerations, and presents historical and dialectal variants. The introductory courses in literature, also in the third year, emphasize the analysis and appreciation of complete literary works by genre rather than the study of many short selections of innumerable authors in an anthology. The courses in Hispanic civilization combine a panoramic over-view with a close look at a specific country or topic.

Although no major in Portuguese is offered, advanced literature courses are available.

Students are encouraged to participate in programs of study abroad during the summer and the junior year.

Elected representatives of the undergraduate majors, the graduate students, and the teaching assistants participate with full voting rights in Department meetings.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: See page 143.

Departmental Requirements

Spanish 10A-B, 11, 101A-B-C, 110A, B, or C; Linguistics 50. In addition, each student chooses one of the following four emphases:

Literature: Four upper-division courses in literature with a minimum of one in Spanish-American Literature and one in Spanish Literature.

Culture: Two courses in Latin-American Literature; Spanish 110A-B-C.

Linguistics: Linguistics 101, 102, 103; and any upper-division Spanish linguistics course.

Bilingualism and English as a Second Language: Three courses in Comparative Culture (1A-B and a quarter course in Chicano Culture to be chosen from the following: 103, 105A-B, 115, or 116); a course in Methods of Bilingual Education and E.S.L.; a course in Contrastive Analysis (Span. 187).

GRADUATE PROGRAMS

Master of Arts in Spanish

The candidate is expected to have the equivalent of our undergraduate major. He takes a minimum of 11 courses, eight of which must be graduate courses. Two of the 11 courses must be in linguistics. A maximum of two courses may be transferred from another university but a maximum of five from another University of California campus. Proficiency (defined as the equivalent of the level attained at the end of course 2C) in a foreign language other than the major language is required. The comprehensive examination, in part written, in part oral, will be based both on a reading list and the courses taken by the student and will also test the student's ability to express himself correctly in Spanish. No thesis is required.

Ph.D. in Spanish

The Department of Spanish and Portuguese offers a Ph.D. degree with a major in either Spanish or Spanish-American Literature. The program attempts to integrate period and genre studies with work in literary theory, linguistics, and socio-historical studies. A number of courses outside of the Department are required. We thereby hope to aid in the formation of a Ph.D. candidate who is not a narrow specialist, but a scholar acquainted with the various fields that relate to his discipline. We are concerned also with the practical aspects of helping our graduates become good teachers.

The minor field can be Spanish literature, Spanish-American literature, or Spanish linguistics.

Language Requirements

A reading knowledge of Portuguese and two other languages relevant to the student's area of specialization and subject to the approval of the Department.

Course Requirements

A minimum of 23 courses for the Ph.D. as follows:

Two graduate courses in linguistics, diachronic and synchronic (the students who select linguistics as a minor will substitute two courses in either Spanish or Spanish-American Literature); a course in *Literary Theory* (genre studies, etc.); a course in *Methods of Literary Criticism;* a course on the sociohistorical context of the period of the student's specialization; a course in Brazilian or Portuguese Literature (preferably related to the student's specialization); three courses outside of the department in non-Iberic literatures (preferably related to the student's major with regard to period and genre), or, if the minor is Spanish linguistics, three courses in general linguistics and/or non-Iberic literatures; fourteen courses in Hispanic literature, with a minimum of four in the minor area, the rest chosen by the student in accord with his major. (Students with a minor in linguistics will take twelve courses in His-

panic literature, with a minimum of two in the field [Spanish or Spanish-American] not chosen as a major. Each Ph.D. candidate should take one course in each genre within his area.)

Candidates who have the M.A. degree from another university will be interviewed by two professors representing peninsular and Spanish-American literature, in order to evaluate their past studies in terms of our doctoral program; it is recommended that the student's graduate advisor should be the person likely to direct his doctoral dissertation, and that the choice of dissertation and director be made as early as possible; each Ph.D. candidate will act as an assistant to a professor in an upper-division course in his area of specialization, attending the class regularly and participating in the teaching (it will count as one of the required graduate courses).

Teaching

Since the overwhelming majority of Ph.D. candidates plan to teach, this Department recognizes its responsibility to train them as teachers. Therefore, all candidates for the Ph.D. without previous teaching experience are required to teach under supervision at UCI one course in each of three quarters.

Comprehensive Examination

The student is admitted to candidacy if he passes by a majority vote an oral examination administered by a Candidacy Committee appointed by the Graduate Council. The Candidacy Committee is composed of five members, of whom four will be from the Department. The oral examination will be preceded by a written examination as follows:

The examination will consist of *four* parts according to the area of specialization. (Spanish Literature or Spanish-American Literature).

Spanish Literature: Major: an historical literary period, including all of the genres and the socio-historical context; a genre in all the periods, and the student will demonstrate knowledge of literary theory and methods of literary criticism; the other genres and chronological periods.

Minor area: Spanish-American Literature (all genres of the period which corresponds to the major period) or Spanish Linguistics.

Spanish-American Literature: Major: a literary genre in all the periods, and the student will demonstrate a knowledge of literary theory and methods of literary criticism; an historical literary period, including all of the genres and the sociohistorical context; the *rest* of the genres and periods.

Minor area: a period of Spanish Literature (all genres) or Spanish Linguistics. NOTE: The student whose major area is medieval literature will choose as his minor area a period of Spanish-American Literature or Linguistics.

Dissertation

A dissertation topic will be chosen by the candidate which will normally, but not necessarily, fall within one of the major fields covered by the qualifying examination.

Three faculty members appointed by the Graduate Council constitute the Doctoral Committee which supervises the preparation and completion of the

doctoral thesis. The Doctoral Committee supervises a final examination, the focus of which is the content of the doctoral thesis. Ordinarily, this examination will not be given after completion of the thesis, but rather at an appropriate point during its development.

Such final examination will normally be given while the graduate student is in residence. The Doctoral Committee certifies that a completed thesis is satisfactory through the signatures of the individual Committee members on the title page of the accepted thesis.

SPANISH AND PORTUGUESE FACULTY

Juan Villegas, Ph.D. Universidad de Chile, *Professor of Spanish and Chairman of the Department*
Richard Barrutia, Ph.D. University of Texas, *Professor of Spanish*
Andres Diez-Alonso, Ph.D. Indiana University, *Assistant Professor of Spanish*
Seymour Menton, Ph.D. New York University, *Professor of Spanish and Portuguese*
Hector Orjuela, Ph.D. University of Kansas, *Professor of Spanish*
Julian Palley, Ph.D. University of New Mexico, *Professor of Spanish*
Zidia Stewart, M.A. Michigan State University, *Lecturer in Spanish and Portuguese*
Tracy Terrell, Ph.D. University of Texas, *Assistant Professor of Spanish*
William Truesdell, Ph.D. Brown University, *Assistant Professor of Spanish*

COURSES IN PORTUGUESE

See page 5 for explanatory notes on course listings.

K1A-B-C Fundamentals of Portuguese (1-1-1) F, W, S
A self-instructional course for highly motivated students who have already studied two years of another language at the college level. Students work at their own speed in the language laboratory and are tested twice each quarter.

140A-B-C Brazilian Prose Fiction (1-1-1) F, W
Prerequisite: Portuguese K1C or equivalent. 140C not offered 1974.

141 Brazilian Civilization (1)
Prerequisite: Portuguese K1C or equivalent. Not offered 1973-74.

142 Brazilian Short Story (1)
Prerequisite: Portuguese K1C or equivalent. Not offered 1973-74.

143 Brazilian Poetry (1)
Prerequisite: Portuguese K1C or equivalent. Not offered 1973-74.

144 Masterpieces of Portuguese Literature (1) S
Prerequisite: Portuguese K1C or equivalent.

150 Brazilian Literature in Translation (1) F

LOWER-DIVISION COURSES IN SPANISH

See page 5 for explanatory notes on course listings.

1A-B-C Fundamentals of Spanish (1-1-1) F, W, S
1C offered fall and spring. Prerequisites: 1A, no previous work in Spanish; 1B, one year of high school Spanish; 1C, two years of high school Spanish.

K1A-B-C Fundamentals of Spanish (1-1-1) F, W, S
A self-instructional course for highly motivated students who have already studied two years of another foreign language at the college level. Students work at their own speed in the language laboratory and are tested twice each quarter.

2A-B-C Spanish Reading and Composition (1-1-1) 2A (F, W), 2B (F, W, S), 2C (F, W, S)
Prerequisites: Normally three years of high school Spanish or one year college Spanish.

10A-B Advanced Composition (1-1) 10A (F, W), 10B (W, S)
Writing compositions on a variety of themes, motivated and prepared in the classroom, and arranged in order of difficulty. Review of selected grammatical topics. Prerequisite: Completion of Spanish 2C or equivalent.

11 Spanish Phonetics (1) F, W, S
Prerequisite: Spanish 2C or equivalent.

UPPER-DIVISION COURSES IN SPANISH

The prerequisite for all upper-division literature courses is Spanish 101A-B-C or equivalent.

101A-B-C Introduction to Spanish Poetry, Theatre, Prose Fiction (1-1-1) F, W, S
Prerequisite: Spanish 2C or equivalent.

110A-B-C Hispanic Civilization (1-1-1) F, W, S
Each of the three quarters will focus on a different country or topic. The course content will vary from year to year. May be repeated. Prerequisite: Spanish 10B or equivalent.

115 Masterpieces of Spanish Medieval Literature (1)
Not offered 1973-74.

117A-B-C Golden Age Literature (1-1-1) 117B (W)

119A-B-C Nineteenth-Century Spanish Literature (1-1-1)
Not offered 1973-74.

120A-B-C Twentieth-Century Spanish Literature (1-1-1) 120A (F) 120C (S)

130A-B-C Spanish-American Prose Fiction (1-1-1)
Not offered 1973-74.

131A-B-C Spanish-American Poetry. Theatre Essay (1-1-1) F, W, S

133 Argentine Literature (1)
Not offered 1973-74.

150 Spanish-American Literature in Translation

187 Selected Topics in Spanish Linguistics (1)
Not offered 1973-74.

190 Reading and Conference (1) F, W, S
May be repeated.

198 Directed Group Study (1) F, W, S
May be repeated.

GRADUATE COURSES IN SPANISH

In addition to the following courses, graduate students might find these Humanities courses of special interest: Humanities 200 (Historical Theory and Analysis), Humanities 210 (Topics and Methods in Linguistics), Humanities 220 (Literary Theory), and Humanities 230 (Philosophical Analysis).

200 Selected Topics in Spanish Linguistics (1) S

201 History of the Spanish Language (1)
Prerequisite: Fundamentals of Latin. Not offered 1973-74.

204 Transformational Grammar (1)
Not offered 1973-74.

205 Spanish Dialectology (1) F

210A-B-C Medieval Literature (1-1-1)
Not offered 1973-74.

215A-B-C Golden Age Prose Fiction (1-1-1)
Not offered 1973-74.

216A-B Golden Age Lyric Poetry (1-1)
Not offered 1973-74.

217A-B Golden Age Theatre (1-1)
Not offered 1973-74.

219A-B-C Nineteenth-Century Spanish Literature (1-1-1)
Not offered 1973-74.

220A-B Modern Spanish Novel (1-1), 220A (F)

221A-B Modern Spanish Poetry (1-1)
Not offered 1973-74.

222A-B Modern Spanish Theatre (1-1)
Not offered 1973-74.

232A-B-C Spanish American Short Story (1)
Not offered 1973-74.

233A-B-C Twentieth-Century Spanish-American Prose Fiction (1-1-1) F, W, S

234A-B-C Spanish-American Poetry (1-1-1) S

235A-B Latin-American Essay (1-1) F

250A-B Romance Linguistics (1-1)
Not offered 1973-74. Prerequisite: Knowledge of French, Spanish, or Italian.

260A-B Seminar in Spanish (1-1) W
Topic variable. May be repeated. In 1974, both sections will be offered winter quarter.

290 Reading and Conference (1) F, W, S
May be repeated.

291 Directed Reading (1) F, W, S
May be repeated.

299 Dissertation Research (1) F, W, S
May be repeated.

399 *University Teacher Training* (1) F, W, S
May be repeated.

apathy

Maureen McCarthy, spanish

school of physical sciences

Frederick Reines
Dean

The School of Physical Sciences offers both preprofessional training and general education in the Departments of Chemistry, Mathematics, and Physics. The faculty, active in research and graduate education, is at the same time vitally concerned with undergraduate teaching. Curricula of the School are designed to meet the needs of a wide variety of students ranging from those with little technical background who seek insight into the activities and accomplishments of physical sciences to those seeking a comprehensive understanding that will prepare them for creative research in physical science.

Over the course of the past century and a half, physics, chemistry, and mathematics have evolved into interdependent but separate intellectual disciplines. This development is reflected in the departmental structure of the School of Physical Sciences. In the same period, these fundamental disciplines have moved into domains of abstraction unimagined by early scientists. This trend to abstraction with its concomitant increase in understanding of the physical universe provides the major challenge to the student of the physical sciences. Mathematics, physics, and chemistry, while providing the foundation of the technology that dominates contemporary civilization, underlie to an ever-increasing extent the new developments in the biological and social sciences.

In recognition of the contribution students can make to the academic affairs of the School, a variety of responsibilities on School and Departmental committees are given to undergraduate and graduate students.

Degrees Offered in the School

Chemistry . . . . . B.A., M.A., Ph.D.
Mathematics . . . . . B.A., M.A., Ph.D.
Physics . . . . . B.A., M.A., Ph.D.

Criteria used by the School of Physical Sciences in selecting candidates for honors at graduation are as follows: Approximately 1% will be awarded *summa cum laude,* 3% *magna cum laude,* and 8% *cum laude.* Honors are awarded on the basis of a student's performance in research and cumulative grade point average.

UNDERGRADUATE PROGRAMS

Each department offers courses that are of value to nonmajors and majors in the sciences. The programs for majors are designed to meet the needs of students planning careers in other fields and of students planning graduate work that continues their major interest. In the belief that understanding and satisfaction follow more from depth than from breadth, the School offers no general survey course. However, each department offers a selection of general

education courses having few or no prerequisites. See the departmental listings for descriptions of these courses, e.g., Chemistry 20-22, Mathematics 15-16, and Physics 11-19.

Planning a Program of Study

Every undergraduate student who has chosen to major in Physical Sciences is assigned a faculty advisor with whom the student should consult in formulating a suitable program of study. (Should the student at any time be uncertain of the identity of his advisor, he may obtain this information in the office of the Dean or the appropriate Department Chairman.) In consultation with his advisor the student should plan a course of study leading to a major in one of the departments of the School. In carrying out this major, he may often concentrate very heavily in a second department within the School or in some other School. Occasionally students choose to pursue a double major. Permission to do so may be sought by a petition submitted to the office of the Dean of Physical Sciences.

All initial courses of study for majors include mathematics through calculus, and calculus is a prerequisite for much of the upper-division work in each major. A student interested in any of the physical sciences should continue his mathematical training beyond these prerequisite courses. Furthermore, the student interested in either physics or chemistry will usually include work in both of these subjects in his undergraduate career.

Although English is becoming increasingly the international language of science, much important scientific literature is still printed in foreign languages, and scientists need to communicate in person with foreign colleagues. Comprehension of at least one of the languages, French, German, or Russian, is an integral requirement of the preparation for majors in mathematics.

Precise and clear expression in written English will be expected in course work in the School. Students found deficient by the School may be required to enroll in English 28A-B-C.

Students in the physical sciences are urged to acquire a working knowledge of computer programming at an early stage of their university careers. This can be done by taking Information and Computer Science 1.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: None (see departmental requirements).

GRADUATE PROGRAMS

A program of course work and research leading to the M.A. and Ph.D. degrees is offered in each of the three departments of the School. The individual programs are described in the following announcements of each department.

department of chemistry

UNDERGRADUATE PROGRAM

The major in Chemistry is elected by students planning careers in the chemical sciences and frequently also by those whose interests lie in biology, med-

icine, earth sciences, secondary education, business, and law. The curriculum of the Department is designed to satisfy the diverse needs of these students and others who may have occasion to study chemistry. The year course in General Chemistry is prerequisite to all study in the Department at more advanced levels and serves also as a thorough introduction to the varied aspects of modern chemistry for students who do not wish to pursue their studies beyond the introductory level. The Organic Chemistry course is required for Chemistry majors and for students of the life sciences. Certain more advanced courses required of Chemistry majors may also be of particular interest to the latter groups, among others.

The undergraduate program of the Chemistry Department emphasizes close contact with research. Chemistry majors are urged to engage in research under the direction of a staff member.

Much of the important chemical literature is being and has been printed in foreign languages, principally German, Russian, and French. Reading competence in one or more of these languages is desirable and many graduate schools require the demonstration of such competence as a prerequisite for an advanced degree. Chemistry majors are encouraged to acquire this competence.

A Chemistry major who seeks a secondary teaching credential in chemistry is urged to consult with his advisor and with the Office of Teacher Education early in his undergraduate career. Chemistry majors who plan subsequent study in medical, dental, or other professional schools should request information concerning admission requirements directly from the schools which they seek to enter. Those intending to pursue graduate studies in chemistry should discuss their plans with their academic advisors.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: None.

Departmental Requirements

Basic Requirements: Mathematics 2A-B-C, Physics 5A-B-C and 5LA-B-C (or 3A-B-C and 3LA-B-C), Chemistry 1A and 1LA, Chemistry 1B-C or 11B-C and 1LB-C, or 11LB-C, Chemistry 51A-B-C and 51LA-B-C, Chemistry 131A-B-C (or 130A-B-C), Chemistry 151 (or 150).

Electives: Five courses chosen from the elective list below. These must include at least two chemistry courses (Chemistry 180 may be counted no more than once) and at least one of the laboratory courses in the following laboratory course group: Chemistry 152, Chemistry 153, Chemistry 160, Chemistry 170, Biological Sciences 125, Physics 150, Physics 151, Physics 152.

Elective List: All Chemistry courses numbered 152-263, Bio. Sci. 101F (Biochemistry), Bio. Sci. 101G (Molecular Biology), Bio. Sci. 125 (Biochemical Methodology), Bio. Sci. 126A-B (Biochemistry), Bio. Sci. 128 (Molecular Genetics), Physics 111A-B (Classical Mechanics), Physics 112A-B (Electromagnetic Theory), Physics 115 (Statistical Physics), Physics 116 (Thermodynamics), Physics 130 (Quantum Mechanics), Physics 131 (Atomic Physics), Physics 132 (Nuclear Physics), Physics 133 (Solid State Physics), Physics 141

(Modern Optics), Physics 150 (Electronics), Physics 151 (Advanced Lab), Physics 152 (Advanced Lab).

Scientific Breadth Requirement: A total of six additional four- or five-unit courses chosen from the offerings of the Departments of Mathematics and Physics and the School of Biological Sciences. (These may be taken on a Pass/Not Pass basis subject to the usual restrictions on Pass/Not Pass enrollment.)

Planning a Program of Study

The departmental requirements leave the student a great deal of latitude in his choice of courses – the student can choose to pursue interests ranging from biochemistry on the one hand to chemical physics on the other. Many of the basic requirements above coincide with those of the School of Biological Sciences, and a double major in Chemistry-Biology does not require much extra course work. The Department is accredited by the American Chemical Society. While it is not necessary, it is desirable for students to pursue a course of study that the American Chemical Society judges to merit a certified degree.

Students should consult with their advisors on courses of study. A certified chemistry major would normally be expected to take Chemistry 1 and 1L, Mathematics 2, ICS 1 or Physics 1, and Physics 5A-B and 5LA-B, plus one elective course per quarter during his freshman year. In the sophomore year the certified chemistry major would normally take Chemistry 51 and 51L, Mathematics 3, Physics 5C-D-E and 5LC-D-E, plus one elective course per quarter. For the junior year Chemistry 131, Chemistry 151, Chemistry 152, and Chemistry 153, plus two elective courses per quarter are recommended. In the senior year the student seeking the certified degree should take Chemistry 215 plus a number of electives. He should also include Chemistry 180 or some other laboratory course in chemistry among his electives. The foregoing program lists explicitly those chemistry courses which most graduate schools would expect their entering chemistry graduate students to have taken. It should be noted that the more biologically oriented student may elect not to take Physics 5D-E and Mathematics 3 to permit more time for coursework in the biological sciences, while the more physically oriented student may choose to take more courses taught in the mathematics and physics departments. Courses listed as electives may be used as needed to satisfy University and Departmental requirements. It should be recognized that courses such as Biological Sciences courses which count toward Departmental requirements may be used simultaneously to satisfy University requirements if a student so desires. There is no language requirement, but chemistry majors are urged to obtain reading competence in a foreign language through course work.

GRADUATE PROGRAMS

The Department offers programs leading to both the M.A. and the Ph.D. degrees in Chemistry. These programs are identical for the student during his first year of graduate work. The M.A. degree is granted in recognition of a broad knowledge of the facts and theories of modern chemistry, together with skill and competence in laboratory techniques; the Ph.D. degree is granted in recognition of the demonstrated ability to carry out independent research in chemistry.

Both programs rely on specific examinations of various kinds: area examinations over the general content of chemical knowledge, cumulative examinations over more recent specific developments in chemistry, and an oral candidacy examination in defense of original research propositions. Only the area examinations are required for candidates for the M.A. degree, but all three are required for the Ph.D. degree.

A comprehensive program of graduate courses is also available and is an integral part of the graduate program. The specific program most suitable for a particular graduate student will be recommended to him by the Department, taking cognizance of his performance on the initial area examinations.

Master of Arts in Chemistry

The requirements for the M.A. degree can be met through either one of two plans, as described below. For either plan, a minimum of three quarters in residence is required. Plan I (Thesis Plan) requires completion of an original thesis. Plan II (Course Examination Plan) requires the completion of ten graduate courses in chemistry with an average grade of B or better. (Chemistry 290 and 291 may not be counted toward the total of ten courses, and Chemistry 280 may be counted only once.) Both plans require successful completion of the area examinations.

The procedures for passing the area examinations are described in more detail in the section on the Ph.D. degree. The thesis required for the M.A. degree summarizes the results of original research performed by the student under the supervision of a faculty member. No oral examination is required in defense of the dissertation submitted for the M.A. degree.

Doctor of Philosophy in Chemistry

The principal requirements for the Ph.D. Degree in Chemistry are six quarters in residence, admission to candidacy, and successful completion and defense of a dissertation reporting results of original research.

1. **Residence.** As many as three of the six quarters in residence may be waived for students who have had graduate work at another institution.

2. **Admission to Candidacy.** Students must pass area examinations in each of these three general fields of chemistry: physical chemistry, organic chemistry, and inorganic and nuclear chemistry. These examinations presume thorough preparation in the various areas of the level of undergraduate instruction. Area examinations are given in September, February, and May and must be successfully completed by the end of the third examination period after initial enrollment. A series of cumulative examinations given each month and more closely oriented toward current chemical research is also taken. Students shall begin taking the cumulative examinations in the month following successful completion of the area examinations, and all subsequent examinations must be taken until the requirement is satisfied. Successful completion of four examinations within a maximum of 12 attempts satisfies this requirement.

An oral examination on original research propositions and on the student's thesis research topic is given within two quarters following completion of the cumulative examinations. Successful completion of the oral examination leads to recommendation for admission to candidacy. In the event of a failure

on the oral examination, one re-examination is permitted within three months of the first.

Students must achieve admission to candidacy before the beginning of their ninth quarter of residence unless exceptional conditions justify an extension of time.

3. **Course Requirements.** The student is required to pass, with an average grade of B or better, the graduate courses specified for him by the Department. These courses will be chosen with his particular interests in mind and will ordinarily include six to eight one-quarter graduate courses. No minimum number is specified, however, and excellent performance in the area examinations will result in a smaller number of specified courses for the student.

4. **Foreign Language Requirements.** The dissertation committee may require the student to demonstrate proficiency in one modern foreign language with a significant chemical literature, if the committee deems such proficiency requisite to pursuit of the student's dissertation research. The dissertation committee will establish the method of demonstrating foreign language proficiency.

5. **Dissertation.** A dissertation summarizing the results of original research performed by the student under the supervision of a faculty member in the Department is required for the Ph.D. degree. The criterion for acceptance by the Department of a dissertation is that its contents be suitable for publication in a scientific journal. The dissertation must not have been submitted to any other institution prior to its submission to the Chemistry Department at UCI.

6. **Defense of Dissertation.** Upon completion of the dissertation, the student will take an oral examination, open to the public, before a committee consisting of his research supervisor, two additional members of the Chemistry Department, and, when pertinent, a member of another department. The student will be examined on the contents of the dissertation and on topics in branches of chemistry which are related to the subject matter of the dissertation.

7. **Teaching.** The graduate program at Irvine enables all students to participate in some teaching during their graduate studies. A minimum of three quarters of teaching is required of Ph.D. candidates.

CHEMISTRY FACULTY

Everly B. Fleischer, Ph.D. Yale University, *Professor of Chemistry and Chairman of the Department*

David A. Brant, Ph.D. University of Wisconsin, *Associate Professor of Chemistry*

Don L. Bunker, Ph.D. California Institute of Technology, *Professor of Chemistry*

Marjorie C. Caserio, Ph.D. Bryn Mawr College, *Professor of Chemistry*

Donald R. Davis, Ph.D. University of California, Los Angeles, *Assistant Professor of Chemistry*

Robert J. Doedens, Ph.D. University of Wisconsin, *Associate Professor of Chemistry*

Fillmore Freeman, Ph.D. Michigan State University, *Associate Professor of Chemistry*
Vincent P. Guinn, Ph.D. Harvard University, *Professor of Chemistry*
Warren J. Hehre, Ph.D. Carnegie-Mellon University, *Assistant Professor of Chemistry*
Edward K.C. Lee, Ph.D. University of Kansas, *Professor of Chemistry*
Robert T. McIver, Ph.D. Stanford University, *Assistant Professor of Chemistry*
George E. Miller, D. Phil. Oxford University, *Lecturer in Chemistry and Reactor Supervisor*
Harold W. Moore, Ph.D. University of Illinois, *Professor of Chemistry*
Larry E. Overman, Ph.D. University of Wisconsin, *Assistant Professor of Chemistry*
F.S. Rowland, Ph.D. University of Chicago, *Professor of Chemistry*
Robert W. Taft, Ph.D. Ohio State University, *Professor of Chemistry*
Stanley R. Winter, Ph.D. Stanford University, *Assistant Professor of Chemistry*
Max Wolfsberg, Ph.D. Washington University, *Professor of Chemistry*

UNDERGRADUATE COURSES IN CHEMISTRY

See page 5 for explanatory notes on course listings.

1A-B-C General Chemistry (¾-¾-¾) F, W, S
Lecture, three hours; discussion, one hour. Introduction to the theoretical foundations and practice of modern chemistry. Topics of study: Stoichiometry; atomic and molecular structure; properties of gases, liquids, solids, and solutions; chemical equilibrium and thermodynamics; chemical kinetics; periodic properties and descriptive chemistry of the elements. Prerequisites for 1A: high school chemistry, three years of high school mathematics; high school physics is recommended. (Students lacking some prerequisites for Chemistry 1A may be admitted by permission of the Department.) Prerequisites for 1B: passing grades in Chemistry 1A and 1LA. Prerequisites for 1C: passing grades in Chemistry 1B and 1LB. Corequisites for 1A-B-C: concurrent enrollment in the corresponding segment of Chemistry 1L. Concurrent enrollment in calculus will be useful but is not required.

1LA-B-C General Chemistry Laboratory (½-½-½) F, W, S
Laboratory, four hours. The course provides experience in the fundamental manipulative aspects of chemistry, and chemical practice and principles are illustrated through appropriately chosen experiments. Prerequisites for 1LA: none. Prerequisites for 1LB: passing grades in Chemistry 1A and 1LA. Prerequisites for 1LC: passing grades in Chemistry 1B and 1LB. Corequisites for 1LA-B-C: concurrent enrollment in the corresponding segment of Chemistry 1.

10A-B Elementary Physical Sciences (1-1) W, S
Lecture, three hours; laboratory, four hours. This course provides the fundamental concepts and basic methods required for introductory courses in chemistry and physics. Topics covered include units and systems of measurement, conversion factors, significant figures, experimental error propagation, slide rule use, methods of problem solving, atomic and molecular structure, phase change, solutions, ionization, chemical reactions, stoichiometry, oxidation-reduction, chemical problem solving, concepts such as pressure, volume, temperature, mass, density, force, energy, velocity, acceleration, momentum, heat capacity, electric charge, electric current, and the mole. Prerequisites: None. Note: This course satisfies no requirements other than contribution to the 180 units required for graduation.

11B-C Honors General Chemistry (¾-¾) W, S
Lecture, three hours; discussion, one hour. Designed for the student with superior ability and preparation. The format and syllabus follow closely those of Chemistry 1,

but topics will be developed more extensively. Prerequisites: successful completion of previous quarters of General Chemistry and General Chemistry Laboratory and permission of the Department. Corequisites: concurrent enrollment in the corresponding segment of Chemistry 11L.

11LB-C Honors General Chemistry Laboratory (½-½) W, S
Laboratory, four hours. The course is similar to Chemistry 1LB-C but provides greater opportunity for exercise of individual initiative in design and execution of experiments. Prerequisites: successful completion of previous quarters of General Chemistry and General Chemistry Laboratory and permission of the Department. Corequisites: concurrent enrollment in the corresponding segment of Chemistry 11.

20 Scientific Controversy (1) F
Lecture, three hours. The speculations, arguments plus counter-arguments, false leads, and occasional fierce controversies that produce "well-established scientific knowledge" have an intellectual flavor that contrasts sharply with the processes required in learning the details of presently accepted scientific understanding. The nature of the scientific process is examined through study of specific arguments and controversies, both past and current. Current topics such as protective inoculation, pesticides in the environment, fluoridation, and artificial radioactivity have been considered in earlier versions of this course. Specific topics determined at beginning of course. Chemistry 1A-B-C not required. Not offered 1973-74.

21 Chemistry of Nutrition (1) S
Lecture, three hours. The chemistry of nutrition is one of the more interesting illustrations and potentially beneficial applications of chemical knowledge. This course will consider the properties, chemical reactions, and biological functions of the 40 chemical ingredients known to be essential in the human diet. Class time will be primarily devoted to discussion and clarification of selected readings; a small amount of laboratory work will be included. Chemistry 1A-B-C not required.

22 Radioactivity and Radiation (1) S
Lecture, three hours. A study of the impact of nuclear science and technology on society. The uses of nuclear energy for electric power generation, transportation, medicine, criminology, and scientific research will be examined. Chemistry 1A-B-C not required.

51A-B-C Organic Chemistry (¾-¾-¾) F, W, S
Lecture, three hours; discussion, one hour. Development of fundamental concepts relating to carbon compounds with emphasis on structural theory and the nature of chemical bonding, stereochemistry, reaction mechanisms, spectroscopic, physical and chemical properties of the principal classes of carbon compounds. Prerequisites for 51A: Chemistry 1A-B-C and 1LA-B-C. Prerequisites for 51B: passing grades in Chemistry 51A and 51LA. Prerequisites for 51C: passing grades in Chemistry 51B and 51LB. Corequisites for 51A-B-C: concurrent enrollment in the corresponding segment of Chemistry 51L.

51LA-B-C Organic Chemistry Laboratory (½-½-½) F, W, S
Laboratory, four hours. The course provides experience in modern techniques of organic chemistry, using selected experiments to illustrate the topics introduced in Chemistry 51A-B-C. Prerequisites for 51LB: passing grades in Chemistry 51A and 51LA. Prerequisites for 51LC: passing grades in Chemistry 51B and 51LB. Corequisites for 51LA-B-C: concurrent enrollment in the corresponding segment of Chemistry 51.

101A-B Chemistry of Environmental Pollution (1-1) W, S
Lecture, three hours. The chemistry of air, water, and soil pollution will be examined. The chemical fate of pollutants will be traced from their sources, and remedial alternatives to current pollution patterns will be discussed from a chemical point of view. Prerequisites: Chemistry 1A-B-C and 51A. Not offered 1973-74.

130A-B-C Physical and Biophysical Chemistry (1-1-1) F, W, S
Lecture, three hours; discussion, one hour. Prerequisites: Chemistry 1A-B-C, Physics

5A-B or 3A-B-C, Math 2A-B-C. Prerequisites for 130B-C: Successful completion of previous courses in the sequence.

130A Chemical Thermodynamics (1) F
Classical thermodynamics of pure and multicomponent systems. Development of the conditions of chemical and heterogeneous equilibrium. Multiple equilibria. The properties of solutions.

130B Chemical Kinetics and Quantum Chemistry (1) W
Kinetics and mechanism of chemical reactions. The theory of chemical reaction rates. Catalysis. Chemical relaxation. Atomic and molecular energy levels. Chemical bonding. Statistical thermodynamics.

130C Molecular Structure Determination (1) S
Same as Biological Sciences 123. Determination of the structure and properties of molecules and macromolecules using spectroscopic, thermodynamic, hydrodynamic, and radiation scattering methods.

131A-B-C Physical Chemistry (1-1-1) F, W, S
Lecture, three hours; discussion, one hour. Prerequisites: Chemistry 1A-B-C, Physics 5A-B, Mathematics 2A-B-C. Prerequisites for 131B-C: successful completion of previous courses in the sequence.

131A Quantum Chemistry and Molecular Structure (1) F
Development of the principles of chemical bonding, spectroscopy, and molecular structure determination.

131B Statistical Mechanics and Thermodynamics (1) W
Development of the fundamental distribution laws, the laws of thermodynamics, and the conditions for chemical and heterogeneous equilibrium.

131C Chemical Kinetics (1) S
Development of the principles of kinetic molecular theory of gases, chemical dynamics, and elementary reactions in solution and at interfaces.

150 Quantitative Chemical Analysis (1) F
Lecture, three hours; laboratory, seven hours. A terminal course in quantitative chemistry. Theoretical aspects of common methods of analytical chemistry will be treated in lecture and illustrated with laboratory analyses of standard samples. Special emphasis will be given to the interpretation and significance of analytical results and to analytical applications in medical and biological sciences. Prerequisites: Chemistry 1LA-B-C.

151 Fundamental Methods of Experimental Chemistry (1) F
Lecture, three hours; laboratory, six hours. For Chemistry majors and others interested in experimental chemistry. Fundamental techniques used in analytical, inorganic, organic and physical chemistry will be treated in lectures and illustrated with laboratory experiments which extend the student's previous laboratory experience. Emphasis is on providing a firm understanding of the bases of the techniques. Topics include statistical treatment of data, elementary FORTRAN programming, gravimetry, titrimetry, simple material handling technology, separation methods, optical, electrochemical and radiochemical measurements. Prerequisites: Chemistry 1L and 51L.

152 Advanced Chemical Analysis (1) W
Lecture, two hours; prelaboratory discussion, two hours; laboratory, five hours. Lectures will treat the modern practice of quantitative and qualitative analysis of real samples. In laboratory experiments, techniques including UV, visible and IR, NMR and atomic absorption spectrometry, gas chromatography, neutron activation analysis, and mass spectrometry will be used for analysis of samples of industrial and environmental origins. Prerequisite: Chemistry 151.

153 Chemistry Advanced Laboratory (1) S
Prelaboratory discussion, one hour; laboratory, nine hours. A wide variety of experiments utilizing physico-chemical methods will be offered. The student will have con-

siderable freedom to choose experiments and to suggest experiments. Experiments deal with atomic and molecular spectroscopy, gas and solution kinetics, thermochemistry, and electric and magnetic measurements. As far as possible, experiments will illustrate inorganic and organic applications and may include special preparative methods. Prerequisites: Chemistry 151 and Chemistry 131C (may be taken concurrently).

160 Qualitative Organic Analysis (1) S
Lecture, two hours; laboratory, eight hours. Emphasizes modern spectral and chemical methods of identification of organic compounds. Prerequisites: Chemistry 51A-B-C. Not offered in 1973-74.

170 Radioisotope Techniques (1) W
Lecture, three hours; laboratory, four to six hours. Basic theory and practice of production, separation, and determination of radioactive isotopes with emphasis on particular applications in chemistry and biology. Prerequisite: Chemistry 150. Others may be admitted by consent of the Department.

180 Undergraduate Research (1-1-1) F, W, S
The student wishing to engage in research for credit should arrange with a member of the staff to sponsor and supervise such work. Prerequisite: consent of a faculty sponsor. May be repeated for credit.

192 Tutoring in Chemistry (¼-1) F, W, S
Students may enroll in a section of this course to earn course credit for tutoring associated with the Physical Sciences Peer Tutoring Program or for activities as a student assistant in conjunction with some specific chemistry course. Admission to the course will depend upon demonstration of suitable qualifications and approval of the instructor in charge. Students may take the course for P/NP credit only; the number of units per term (1-4) will be determined by the specific activities involved. Prerequisite: Permission of the Department. Note: This course satisfies no degree requirements other than contribution to the 180 units required for graduation. No more than 8 units earned in tutoring courses may be counted toward the required total of 180.

GRADUATE COURSES IN CHEMISTRY

201 Kinetics and Mechanism of Organic Reactions (1) W
Lecture, three hours. Emphasizes the quantitative aspects of organic chemistry as they apply to mechanistic investigations. Prerequisites: Chemistry 51A-B-C and 131A-B-C.

202 Physical Organic Chemistry (1) S
Lecture, three hours. Covers three broad areas: structure and spectroscopy, stereochemistry and conformational analysis, and molecular orbital theory and bonding. The emphasis and subjects will vary from year to year. Prerequisites: Chemistry 51A-B-C and 131A-B-C.

203 Advanced Organic Chemistry (1) F
Lecture, three hours. Covers advanced topics in organic chemistry in the areas of synthesis, structural, and physical organic chemistry. Prerequisites: Chemistry 51A-B-C.

205 Modern Synthetic Reactions (1) S
Lecture, three hours. Covers recent synthetic developments and techniques in organic synthesis. The emphasis will be on both synthetic application and mechanistic interpretations. Prerequisites: Chemistry 51A-B-C.

211 Chemical Thermodynamics (1) W
Lecture, three hours. A detailed discussion of the fundamental principles of chemical thermodynamics will be undertaken. The thermodynamics of single- and multicomponent gas phase and condensed phase systems will be discussed. Prerequisites: Chemistry 131A-B-C.

213 Chemical Kinetics (1) F
Lecture, three hours. Surveys gas phase and organic reaction mechanisms and their relationship to kinetic rate laws; treats the basic theory of elementary reaction rates. A brief presentation of modern cross-sectional kinetics is included. Prerequisites: Chemistry 131A-B-C.

215 Inorganic Chemistry I (1) W
Lecture, three hours. Principles of modern inorganic chemistry with applications to chemical systems of current interest. Major topics include the nature and properties of the chemical bond, stereochemistry of inorganic compounds, the structures, properties, and reactions of coordination and organometallic compounds, and selected topics from the current literature. Prerequisites: Chemistry 51A-B-C and 131A-B-C.

216 Inorganic Chemistry II (1) F
Lecture, three hours. Advanced topics in structural, synthetic, and mechanistic aspects of inorganic chemistry. Emphasis will vary at the discretion of the lecturer. Prerequisites: Chemistry 51A-B-C and 131A-B-C.

230 Molecular Spectroscopy (1) W
Lecture, three hours. Theory and techniques of spectroscopy as used for the study of molecular structures and properties. Infrared, Raman, microwave, and magnetic resonance spectroscopy are covered. Prerequisites: Chemistry 131A-B-C.

231 Quantum Chemistry (1) F
Lecture, three hours; discussion, one hour. Fundamentals of quantum mechanics will be discussed. The application of quantum mechanics to problems in atomic systems will be considered. Prerequisites: Chemistry 131A-B-C.

232 Statistical Mechanics (1) S
Lecture, three hours; discussion, one hour. The fundamental postulates of statistical mechanics will be examined and the formalism of the method developed. Applications to statistical thermodynamic problems of chemical interest, e.g., dilute and real gases, crystals, liquids, solutions, chemical equilibrium will be considered. Prerequisites: Chemistry 131A-B-C.

233 Nuclear and Radiochemistry (1) W
Lecture, three hours. Brief introductions are presented to nuclear structure, nuclear reactions, nuclear energy, radiochemical analysis, isotope effects, radiation chemistry, hot-atom chemistry, tracer methods, and nuclear processes as chemical probes. Prerequisites: Chemistry 131A-B-C or consent of the Department.

234 Advanced Chemical Kinetics (1)
Variable format. In some years it has been identical with the winter course in Gas Kinetics, which is given periodically for a nationwide audience. On other occasions it has been a cluster of lecture series on various modern kinetics topics. Prerequisite: Chemistry 213 or consent of the Department. Not offered 1973-74.

235 Molecular Quantum Mechanics (1) S
Lecture, three hours; discussion, one hour. The application of quantum mechanics to the calculation of molecular properties will be discussed. Attention will be given to the electronic structure of molecules. Prerequisites: Chemistry 231 or equivalent.

240 Forensic Chemistry (1) W
Lecture, three hours. Some of the lectures may be presented by practicing criminalists. The application of chemical techniques to the problems of crime investigation will be discussed. Prerequisites: Chemistry 51A-B-C and Chemistry 131A-B-C or consent of instructor.

251 Special Topics in Organic Chemistry (1)
Advanced topics in organic chemistry are discussed. The format, content, and frequency of the course are variable. Prerequisite: consent of the Department.

252 Special Topics in Physical Chemistry (1)
Advanced topics in physical chemistry are discussed. The format, content, and fre-

quency of the course are variable. Prerequisite: consent of the Department.

253 Special Topics in Inorganic Chemistry (1)
Advanced topics in inorganic chemistry are discussed. The format, content, and frequency of the course are variable. Prerequisite: consent of the Department.

261 Biomolecular Structure (1) F
Lecture, three hours. The structure of biomolecules as determined both in the solid state and in solution will be discussed. Both diffraction and spectroscopic techniques will be discussed. Prerequisites: Chemistry 131A-B-C or Chemistry 130A-B-C. Not offered in 1973-74.

262 Biopolymers in Solution (1) W
Lecture, three hours. The thermodynamics and statistical mechanics of biopolymers will be covered. Both equilibrium and hydrodynamic methods will be discussed. Techniques such as viscosity, sedimentation, osmotic pressure, and light scattering will be covered. Prerequisites: Chemistry 131A-B-C or Chemistry 130A-B-C. Not offered in 1973-74.

263 Biochemical Dynamics (1) S
Lecture, three hours. This course will discuss enzyme kinetics. A general discussion of multistep kinetics will be covered. Active sites, factors contributing to enzymic catalysis, and chemistry and biochemistry of co-factors will be discussed. Prerequisites: Chemistry 131A-B-C or Chemistry 130A-B-C.

280 Research (½ to 3) F, W, S
Organic synthesis, reaction kinetics, radiochemistry, nuclear chemistry, photochemistry, theoretical chemistry, physical organic chemistry, inorganic chemistry, physical chemistry of macromolecules. Prerequisite: permission of the Department.

290 Seminar (1) F, W, S
Weekly seminars and discussions on general and varied topics of current interest in chemistry. Prerequisite: graduate standing.

291 Research Seminar (1)
Seminars organized for detailed discussion of research problems of current interest in the Department. The format, content, and frequency of the course are variable. Prerequisite: consent of the Department.

department of mathematics

The curriculum in mathematics – from lower-division to graduate courses – is augmented by opportunities for supervised individual study and research, seminars, colloquia, and the mathematics programs at nearby branches of the University of California. It is designed to be compatible with curricular structures at other collegiate institutions in California so as to enable students transferring to UCI to continue their programs of mathematics study.

UNDERGRADUATE PROGRAM

Undergraduate mathematics courses are of several kinds: (a) courses preparatory to advanced work in mathematics, the exact sciences, and engineering; (b) courses for students of the social sciences; (c) courses for liberal arts students and those planning to enter the teaching field.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: None.

Requirements for a Major in Mathematics

These requirements apply to students entering UCI as Freshmen in 1972-73 or afterwards.

Upper-division students should consult the departmental advisor to be certain of the requirements applicable to them.

Mathematics 2A-B-C and Mathematics 3A-B-C; 12 upper-division or graduate courses in mathematics including Mathematics 120A-B-C and Mathematics 140A-B-C; three additional courses in chemistry, mathematics, physics, or information and computer science; three years of high school study or one year of college study in French, German, or Russian (in extraordinary circumstances a student may satisfy this requirement by passing a special examination administered by the Department of Mathematics).

Planning a Program of Study

In consultation with his faculty advisor the student planning to major in Mathematics can plan a program of study which will enable him to meet the requirements for the major and at the same time pursue a program of study directed toward other specific educational objectives such as preparation for graduate school, public school teaching, or biomedical statistics, for example. The Mathematics major normally takes Mathematics 2A-B-C in his freshman year. In his sophomore year Mathematics 3A-B-C and 140A-B-C are recommended. Mathematics 120A-B-C is normally taken in the junior year, and the six remaining Mathematics classes required for the major usually may be distributed throughout the junior and senior years in a flexible manner consistent with the scheduling of course offerings and the particular needs of the student. Since only 18 of the 45 courses needed for graduation are required to be Mathematics courses, the student has considerable freedom in selecting the remaining 27 courses so as to achieve academic breadth and to satisfy specific educational objectives.

GRADUATE PROGRAMS

Graduate courses are designed to meet the needs of students doing graduate work in mathematics and in those disciplines that require graduate-level mathematics for their study. Among the fields covered are analysis, algebra, functional analysis, geometry and topology, probability and statistics, ordinary and partial differential equations, and mathematical logic.

In addition to formal courses, there are seminars for advanced study toward the Ph.D. in various fields of mathematics. Topics will vary from year to year. Each seminar is conducted by a staff member specializing in the subject studied. Enrollment will be subject to the approval of the instructor in charge.

Master of Arts in Mathematics

The Master's Degree programs serve a dual purpose: for some they serve as terminal programs of mathematical education; for others they serve as programs leading to study and research aimed at the Doctor of Philosophy degree. However, a candidate lacking a Master's Degree may, upon successful completion of a proper program of study and research, receive the Doctor of Philosophy degree.

The Master's Degree is offered under Plans I and II. There are no specific course requirements for the Master's Degree. On the other hand, demon-

strated competence and knowledge of algebra and analysis are required for this degree. Examinations, written or oral, will be given to determine the relevant preparation of candidates. For Master's candidates, the ability to read the literature of mathematics in one of the foreign languages, French, German, or Russian, is required.

Plan I for the Master's Degree requires the equivalent of the successful completion of at least eight courses (at least five at the graduate level), the writing of an acceptable research dissertation, and the passing of examinations (written or oral) designed to test the competence of the candidate in the fields of algebra and analysis.

Plan II for the Master's Degree requires the equivalent of the successful completion of at least 12 courses (at least eight at the graduate level) and the passing of examinations (written or oral) designed to test the competence of the candidate in the fields of algebra and analysis.

The residence requirement for the Master's Degree consists of full-time registration for three quarters just prior to the granting of the degree. It is possible for a candidate to take leaves of absence between pairs of these three quarters by making formal arrangements with the Graduate Division.

Doctor of Philosophy in Mathematics

The Doctor of Philosophy Degree requires successful completion of a program of courses, seminars, and individual study that prepares a candidate for a career in mathematical teaching and research. He is expected to have breadth of knowledge in that he is required to demonstrate advanced knowledge and competence in algebra and analysis. He is expected to have depth of knowledge in that he is required to be profoundly familiar with a well-defined subject in mathematics, e.g., Banach algebras, group theory, operator theory, probability theory, topology, categorical algebra.

There are two general requirements for the Ph.D.: the passing of written and/or oral examinations, and the writing and defense of a dissertation embodying creative research that makes a new and valuable contribution to the field of concentration.

Each candidate must demonstrate the ability to read the literature of mathematics in two of the languages, French, German, or Russian.

The examinations for predoctoral students are divided into two sets: those used in determining preparation of the students for admission to candidacy for the Doctor of Philosophy Degree; those used to determine successful completion of all requirements for the same degree.

The first set (administered by the Department of Mathematics) may consist of both oral and written examinations. The second set is prescribed and administered by the Graduate Division operating through a committee. This committee, consisting of scholars in the field of concentration and scholars in other fields, decides on admission of students to candidacy and then guides and supervises candidates through their research, study, and writing for the Doctor of Philosophy degree.

Doctoral candidates must be enrolled as full-time students for the six quarters preceding the granting of their degrees.

MATHEMATICS FACULTY

Donald A. Darling, Ph.D. California Institute of Technology, *Professor of Mathematics and Chairman of the Department*

Bernard Russo, Ph.D. University of California, Los Angeles, *Associate Professor of Mathematics and Vice Chairman of the Department*

Takeo Akasaki, Ph.D. University of California, Los Angeles, *Associate Professor of Mathematics*

Frank B. Cannonito, Ph.D. Adelphi University, *Associate Professor of Mathematics*

Robert L. Chazin, Ph.D. University of California, Berkeley, *Assistant Professor of Mathematics*

Richard A. Denholm, Ed.D. Western Reserve University, *Supervisor of Teacher Education, Lecturer in Mathematics*

William F. Donoghue, Jr., Ph.D. University of Wisconsin, *Professor of Mathematics*

Paul C. Eklof, Ph.D. Cornell University, *Associate Professor of Mathematics*

William H. Fellner, Ph.D. University of California, Berkeley, *Assistant Professor of Mathematics and Medicine*

Mark Finkelstein, Ph.D. Stanford University, *Associate Professor of Mathematics*

Stephen D. Franklin, Ph.D. University of Chicago, *Assistant Professor of Mathematics*

John M. Grover, Ph.D. University of California, Los Angeles, *Assistant Professor of Mathematics*

John C. Holladay, Ph.D. Yale University, *Professor of Mathematics*

John M. Hosack, Ph.D. University of California, Berkeley, *Assistant Professor of Mathematics*

Richard K. Juberg, Ph.D. University of Minnesota, *Associate Professor of Mathematics*

Gerhard K. Kalisch, Ph.D. University of Chicago, *Professor of Mathematics*

Stepan Karamardian, Ph.D. University of California, Berkeley, *Associate Professor of Mathematics and Administration*

Ray A. Kunze, Ph.D. University of Chicago, *Professor of Mathematics*

Meinhard E. Mayer, Ph.D. Parhon University (Rumania), *Professor of Mathematics and Physics*

George S. McCarty, Ph.D. University of California, Los Angeles, *Associate Professor of Mathematics*

Charles M. Naylor, Ph.D. Stanford University, *Assistant Professor of Mathematics*

David C. Newell, Ph.D. Brandeis University, *Assistant Professor of Mathematics*

Janet Fisher-Palmquist, Ph.D. Brandeis University, *Assistant Professor of Mathematics*

Paul H. Palmquist, Ph.D. University of Chicago, *Assistant Professor of Mathematics*

Robert C. Reilly, Ph.D. University of California, Berkeley, *Assistant Professor of Mathematics*

Leonard P. Sasso, Jr., Ph.D. University of California, Berkeley, *Lecturer in Mathemetics*

Stephen Scheinberg, Ph.D. Princeton University, *Associate Professor of Mathematics*

Chester C. Seabury, Ph.D. Stanford University, *Assistant Professor of Mathematics*
William H. Smoke, Ph.D. University of California, Berkeley, *Associate Professor of Mathematics*
Noboru Suzuki, Ph.D. Tohoku University, *Professor of Mathematics*
Riho Terras, Ph.D. University of Illinois, *Instructor of Mathematics*
Edward O. Thorp, Ph.D. University of California, Los Angeles, *Professor of Mathematics*
Howard G. Tucker, Ph.D. University of California, Berkeley, *Professor of Mathematics*
Robert W. West, Ph.D. University of Michigan, *Associate Professor of Mathematics*
Joel J. Westman, Ph.D. University of California, Los Angeles, *Associate Professor of Mathematics*
Robert J. Whitley, Ph.D. New Mexico State University, *Professor of Mathematics*
James J. Yeh, Ph.D. University of Minnesota, *Professor of Mathematics*

LOWER-DIVISION COURSES IN MATHEMATICS

See page 5 for explanatory notes on course listings.

1A-B Essential Mathematics (½-½) F, W
Quiz, four hours. Sets, integers, rational numbers, real numbers, inequalities and absolute value, coordinates, functions, graphs, polynomials, fractions and fractional equations, systems of linear equations, determinants (of order ≤ 3), quadratic formula, exponents, radicals, powers and roots, logarithms, trigonometric functions and identities, vectors in the plane, complex numbers, analytic geometry (lines, circles, some other conics), binomial theorem, arithmetic progressions, mathematical induction, permutations and combinations. The course is structured so that a student proceeds at his own pace; a student may complete both 1A and 1B in a single quarter. This course satisfies no requirement other than contribution to the 180 units required for graduation.

2A-B-C Calculus (1-1-1) F, W, S
Lecture, three hours; quiz, two hours. Prerequisite: Mathematics 1A-B or satisfactory performance on a qualifying examination given at the beginning of the fall quarter.

2A (1) F, W
Limits, derivatives, mean-value theorem, applications (approximations, curve plotting, maxima and minima), definite and indefinite integrals, the fundamental theorem of calculus.

2B (1) W, S
Applications of integration (computation of areas, volumes, length of curves, areas of surface of revolution, center of mass), logarithmic and exponential functions, techniques of integration.

2C (1) F, S
Plane analytic geometry, polar coordinates, complex numbers, complex-valued functions on the real line, infinite series, Taylor series.

3A-B-C Second-year Calculus (1-1-1) F, W, S
Lecture, three hours; quiz, two hours. Vectors in two and three dimensions, partial derivatives, tangent vectors to curves and surfaces; maxima and minima of functions of several variables, multiple integrals, line and surface integrals, theorems of Green, Gauss, and Stokes. Introduction to ordinary differential equations. Prerequisite: Math 2A-B-C.

4A-B-C Liberal Arts Mathematics (1-1-1) F, W, S
Lecture, three hours. A course designed to reveal mathematics as a science and an art. Prerequisites: one year high school algebra, one year high school geometry. Not offered every year.

4A (1) F
Structure, arithmetic, and algebra of the real number system; elementary number theory and numeration.

4B (1) W
Axiomatic method, application to group theory and geometry.

4C (1) S
Sets, logic, introduction to calculus and applied mathematics.

5A-B-C Mathematics for the Social & Natural Sciences I (1-1-1) F, W, S
Lecture, three hours; quiz, two hours. Each course in the sequence is a prerequisite for those following. This course deals with probability theory and its applications to models and to statistics. Topics in probability theory include probability models, sampling, product models, conditional probability and independence, binomial distribution, and random variables. Topics in statistics include sampling and sample distributions, estimation, hypotheses testing, and normal approximation to the binomial. The course normally includes enough calculus to deal with the normal distribution and continuous distributions. Prerequisite: Facility with algebra.

6A-B-C Finite Mathematics (1-1-1) F, W, S
Lecture, three hours; quiz, two hours. Logic, sets combinatorics, probability, vectors, matrices. Applications to linear programming, game theory and graph theory. Designed primarily for computer science majors.

7 Basic Statistics (1) F, W, S
Lecture, three hours; quiz, two hours. Fundamental concepts of statistics, including mean, standard deviation, correlation, binomial distribution, normal distribution, Chi Square. Examples from many fields will be given to illustrate effective uses of statistics.

8 Introduction to Linear Algebra (1) S
Lecture, three hours. Vector spaces, systems of linear equations, matrices, linear transformations, determinants. Prerequisites: Two years high school algebra or Math 1 or consent of instructor.

10A-B-C Topics in Mathematics (1-1-1) F, W, S
Lecture, three hours. A course designed to acquaint the beginning student with some of the ideas of modern mathematics that are independent of the calculus, e.g., graph theory, finite groups, number theory. Each quarter is normally devoted to a different topic, and it is not required that the student enroll for the entire sequence. Not offered each year.

11A-B-C Geometry for High School Teachers (1-1-1) F, W, S
Lecture, three hours. Integrated treatment of topics in Euclidean plane geometry, including congruence, reflections, inversions, orientation, separation and order properties, angles; elliptic and hyperbolic geometry, including distance, length, and area; affine and projective geometry, coordinate systems for the line and the plane; geometric algebra. Not offered every year.

15 What is Mathematics? (1) W
Lecture, three hours. A course intended to acquaint non-specialists with the main currents and ideas in mathematics as an art and science. Technical material will be kept at a minimum, consistent with developing an appreciation of the scope and methods of modern mathematics. Not offered every year.

16 Mathematical Recreations (1) S
Lecture, three hours. Mathematical analysis of a number of diversions such as games, puzzles, and tricks. The emphasis is on items where the analysis depends more on an

understanding of the mathematical concepts and less on complications involving extensive memory, or a deep knowledge of scientific principles. Not offered every year.

70A-B-C Statistical Methods (1-1-1) F, W, S
Lecture, three hours. A survey of the classical methods of estimation and testing including applications to linear regression and analysis of variance, with examples from the biological and social sciences. Designed primarily for research workers in these sciences. Prerequisite: Consent of instructor.

UPPER-DIVISION COURSES IN MATHEMATICS

101A-B-C Topics in Mathematics (1-1-1) F, W, S
Lecture, three hours. Similar in concept to 10A-B-C but at a more advanced level. Prerequisite: Consent of instructor. Not offered every year.

104A-B-C Foundations of Mathematics (1-1-1) F, W, S
Lecture, three hours. This course meets the certification requirements for the elementary teaching credential in the State of California. Not counted as upper-division credit for mathematics majors.

104A (1) F
Exploration of the important subsets of the real number system (irrational numbers, rational numbers, integers). Fundamental ideas of set theory, number theory, and properties of the operations; how these topics relate to the make-up of the real number system.

104B (1) W
The graphing of equations of 1 and 2 variables, functions, quadratic equations, systems of equations, and inequalities; 2 and 3 dimensional geometry; British (= American) and Metric Systems of Measurement including linear, area, volume and angle measurement.

104C (1) S
Non-decimal numeration bases; operations with polynomials; factoring polynomials; topics in statistics (mean, mode, range, standard deviation, frequency distributions and applications of these topics); topics in probability (sample space, outcomes, events and applications); topics in logic and finite mathematics; an introduction to the published school mathematics materials.

105A-B-C Numerical Analysis (1-1-1) F, W, S
Lecture, three hours. Interpolation, polynomial approximation, numerical differentiation and integration, difference equations, iterative solutions of nonlinear equations. Prerequisites: Mathematics 2A-B-C. Not offered every year.

111A-B-C Foundations of Geometry (1-1-1) F, W, S
Lecture, three hours. Same topics as Math 11, but covered in more depth. Not offered every year.

112A-B Introduction to Differential Geometry (1-1) W, S
Lecture, three hours. Applications of advanced calculus and linear algebra to the geometry of curves and surfaces in space. Prerequisite: Math 140A-B-C. Not offered every year.

113A-B Topics in Topology (1-1) W, S
Lecture, three hours. Selected introductory topics in topology, such as classification of surfaces, covering spaces, the fundamental group. Prerequisite: Consent of instructor. Not offered every year.

115A-B-C Geometry and Classical Groups (1-1-1) F, W, S
Lecture, three hours. An investigation of the classical linear groups, their structure and representations. Applications to geometry. Introduction to Lie theory. Prerequisites: Mathematics 120A-B-C or consent of instructor. Not offered every year.

120A-B-C Algebra (1-1-1) F, W, S
Lecture, three hours. Introduction to concepts in algebra, with emphasis on linear

algebra. Groups, rings, fields, vector spaces, linear transformations, duality, inner-products, eigenvalues and eigenvectors, minimal polynomials. Prerequisite: Math 2A-B-C.

121A-B-C Topics in Algebra (1-1-1)
Lecture, three hours. Selected topics in algebra such as group theory, ring theory, field theory. Prerequisites: Mathematics 120A-B-C or consent of instructor.

122A-B-C Elementary Number Theory (1-1-1) F, W, S
Lecture, three hours. Primes, congruences, diophantine equations, quadratic reciprocity and selected other topics. Prerequisite: One year of college mathematics. Not offered every year.

130A-B-C Probability and Stochastic Processes (1-1-1) F, W, S
Lecture, three hours. An introductory course emphasizing applications. Discrete and continuous probability distributions. Distributions of sums and limit theorems. Markov chains and stochastic processes. Prerequisite: Math 2A-B-C.

131A-B-C Mathematical Statistics (1-1-1) F, W, S
Lecture, three hours. An introduction to the theory of statistics. Statistical inference, hypothesis testing, theory of estimation and decision theories. Sampling theory, linear models, analysis of variance. Prerequisite: Math 2A-B-C.

140A-B-C Elementary Analysis (1-1-1) F, W, S
Lecture, three hours. An introduction to real analysis, including the real number system, infinite series, sequences of functions, differentiation, integration, and elements of the calculus of scalar- and vector-valued functions of several variables. Corequisite: Math 3A-B-C.

141A-B-C Advanced Analysis (1-1-1) F, W, S
Lecture, three hours. Prerequisite: Mathematics 140A-B-C.

141A (1) F
Elements of naive set theory and basic properties of metric spaces.

141B (1) W
Point set topology.

141C (1) S
Calculus on vector spaces – including the implicit functions theorem and basic existence theorems.

142A-B-C Differential Equations (1-1-1) F, W, S
Theoretical aspects of ordinary and partial differential equations are emphasized, e.g., existence and uniqueness of solutions. The first quarter is devoted to ordinary differential equations; the last two quarters to partial differential equations and related topics. Prerequisite: Mathematics 3A-B-C or consent of instructor. Not offered every year.

143A-B-C Applied Analysis (1-1-1) F, W, S
Same as Physics 161A-B-C. Lecture, three hours. An introduction to applied mathematics, especially differential equations, for students in the physical sciences and engineering. The first quarter is concerned with ordinary differential equations; methods of solution, applications, existence, uniqueness and stability, linear equations with constant and variable coefficients, and the Laplace transform. Topics from series expansions, complex analysis, Fourier series, and introductory partial differential equations will be covered in the second quarter. The third quarter is devoted to partial differential equations and their applications. Prerequisite: Mathematics 3A-B-C or consent of instructor.

144A-B Introduction to Complex Variables (1-1) W, S
Lecture, three hours. An introductory course emphasizing applications. Complex numbers, analytic functions, Riemann mapping theorem with applications to boundary value problems. Theory of residues, power series expansions. Prerequisite: Mathematics 3A-B-C.

145A-B-C Topics in Analysis (1-1-1) F, W, S
Lecture, three hours. This course will provide a second year in analysis for mathematicians, physical scientists, and engineers. Prerequisites: Mathematics 140A-B-C or consent of instructor. Not offered every year.

150A-B-C Mathematical Logic and Set Theory (1-1-1) F, W, S
Lecture, three hours. The propositional calculus. First order predicate calculus, consistency, completeness. The choice axiom. Well-ordering. Ordinal and cardinal numbers. Prerequisite: Consent of instructor. Not offered every year.

155A-B-C Automata Theory and Recursion Theory (1-1-1) F, W, S
Lecture, three hours. Computability by finite automata, Turing computability, recursive functions, and computational complexity. Recursive and subrecursive hierarchies. Recursive enumerability, decision problems, and degrees of unsolvability. Selected topics. Prerequisite: Consent of instructor. Not offered every year.

191A-B-C Introduction to the Theory of Games with Applications (1-1-1) F, W, S
Lecture, three hours. The classsical von Neumann theory of finite two and n-person games. The theory may be applied to specific games such as chess, poker, Go, and blackjack and to economic behavior including the securities markets. Prerequisites: Mathematics 140A-B-C or consent of instructor. Not offered every year.

192 Tutoring in Mathematics (¼-1) F, W, S
Students may enroll in a section of this course to earn course credit for tutoring associated with the Physical Sciences Peer Tutoring Program or for activities as a student assistant in conjunction with some specific mathematics course. Admission to the course will depend upon demonstration of suitable qualifications and approval of the instructor in charge. Students may take the course for P/NP credit only; the number of units per term (1-4) will be determined by the specific activities involved. Prerequisite: Permission of the Department. Note: This course satisfies no degree requirements other than contribution to the 180 units required for graduation. No more than 8 units earned in tutoring courses may be counted toward the required total of 180.

199A-B-C Special Studies in Mathematics (1-1-1) F, W, S
Supervised reading. For outstanding undergraduate mathematics majors in supervised but independent reading or research of mathematical topics of current interest. Prerequisite: Department approval.

GRADUATE COURSES IN MATHEMATICS

210A-B-C Real Analysis (1-1-1) F, W, S
Lecture, three hours. Measure theory, Lebesgue integral, L_p spaces, Radon-Nikodym theorem, differentiation, metric spaces, Banach spaces, Daniell integral. Prerequisites: Mathematics 141A-B, or equivalent of these, or consent of instructor.

220A-B-C Analytic Function Theory (1-1-1) F, W, S
Lecture, three hours. Standard theorems about analytic functions. Harmonic functions. Normal families. Conformal mapping. Prerequisites: Mathematics 140A-B-C, 141A-B, or equivalent of these, or consent of instructor.

221A-B Several Complex Variables (1-1) F, W
Lecture, three hours. Holomorphy domains, Plurisubharmonic functions. Holomorphy envelopes, integral representations. Applications in partial differential equations and quantum field theory. Prerequisites: Mathematics 220A-B-C, or equivalent, or consent of instructor.

230A-B-C Algebra (1-1-1) F, W, S
Lecture, three hours. Elements of the theories of groups, rings, fields, modules, Galois theory. Modules over principal ideal domains. Artinian, Noetherian, and semisimple rings and modules. Prerequisites: Mathematics 120A-B-C, 121A-B-C, or equivalent, or consent of instructor.

231A-B-C Group Theory (1-1-1) F, W, S
Lecture, three hours. Introduction to the abstract theory of groups. Prerequisites: Mathematics 121A-B-C, or equivalent, or consent of instructor.

232A-B-C Theory of Finite Groups (1-1-1) F, W, S
Lecture, three hours. Introduction to the theory of finite groups. Representation theory, character theory, Thompson transitivity theorem. Prerequisites: Mathematics 231A-B-C or consent of instructor.

234A-B-C Topics in Algebra (1-1-1) F, W, S
Lecture, three hours. Group theory, homological algebra, and other selected topics. Prerequisites: Mathematics 230A-B-C or consent of instructor.

240A-B-C Differential Geometry (1-1-1) F, W, S
Lecture, three hours. Differential manifolds, differential forms, integrations, introduction to Lie groups, connections, Riemannian manifolds, curvature and topology, calculus of variations in the large, immersions and imbeddings. Prerequisites: Mathematics 110A-B-C and 141A-B-C or consent of instructor.

241A-B-C Topics in Lie Groups and Lie Algebras (1-1-1) F, W, S
Lecture, three hours. Introduction to Lie theory with emphasis on the structure of semisimple matrix groups and their representations. Prerequisites: linear algebra, point set topology, and basic analysis.

250A-B-C Algebraic Topology (1-1-1) F, W, S
Lecture, three hours. Topics covered will vary with instructor. Prerequisites: Mathematics 121A-B-C and 141A-B, or equivalent, or consent of instructor.

254A-B-C Topics in Topology (1-1-1) F, W, S
Lecture, three hours. A continuation of 250C, topics being selected by the instructor. Prerequisites: Mathematics 250A-B-C or consent of instructor.

260A-B-C Functional Analysis (1-1-1) F, W, S
Lecture, three hours. Elements of Banach space theory, operator theory, Banach algebra theory including structure theory of commutative algebras and spectral theory in Hilbert space. Prerequisites: Mathematics 210A-B-C and 220A-B-C or consent of instructor.

261A-B-C Operator Theory (1-1-1) F, W, S
Lecture, three hours. Elements of topological linear spaces, Hilbert spaces, spectral theorems and multiplicity theory, rings of operators, representation of groups and rings. Prerequisites: Mathematics 210A-B-C or 221A-B-C or consent of instructor.

268A-B-C Topics in Functional Analysis (1-1-1) F, W, S
Lecture, three hours. Selected topics such as spectral theory, abstract Harmonic analysis, Banach algebras, operator algebras. Prerequisite: Consent of instructor.

270A-B-C Probability (1-1-1) F, W, S
Lecture, three hours. Probability spaces, distribution and characteristic functions. Strong limit theorems. Limit distributions for sums of independent random variables. Conditional expectation and martingale theory. Stochastic processes. Prerequisites: Mathematics 130A-B-C and 210A-B-C or consent of instructor.

271A-B-C Stochastic Processes (1-1-1) F, W, S
Lecture, three hours. Processes with independent increments, Wiener and Gaussian processes, function space integrals, stationary processes, Markov processes. Prerequisites: Mathematics 210A-B-C or consent of instructor.

272A-B-C Integration in Function Spaces (1-1-1) F, W, S
Lecture, three hours. Brownian motion, Wiener integral, Feynman integral. Applications to partial differential equations. Gaussian processes, integration on Hilbert space. Generalized stochastic process. Prerequisites: Mathematics 271A-B-C or consent of instructor.

273A-B-C Statistical Inference (1-1-1) F, W, S
Lecture, three hours. Classical theorems of statistical inference from a mathematically rigorous point of view. Statistical decision theory. Prerequisites: Mathematics 210A-B-C or consent of instructor.

274A-B-C Topics in Probability (1-1-1) F, W, S
Lecture, three hours. Prerequisites: Mathematics 270A-B-C or consent of instructor.

280A-B-C Mathematical Logic (1-1-1) F, W, S
Lecture, three hours. Introduction to model theory with emphasis on ultraproducts, elementary classes, and saturated models. Applications to algebra and set theory. Prerequisites: Mathematics 150A-B-C or consent of instructor.

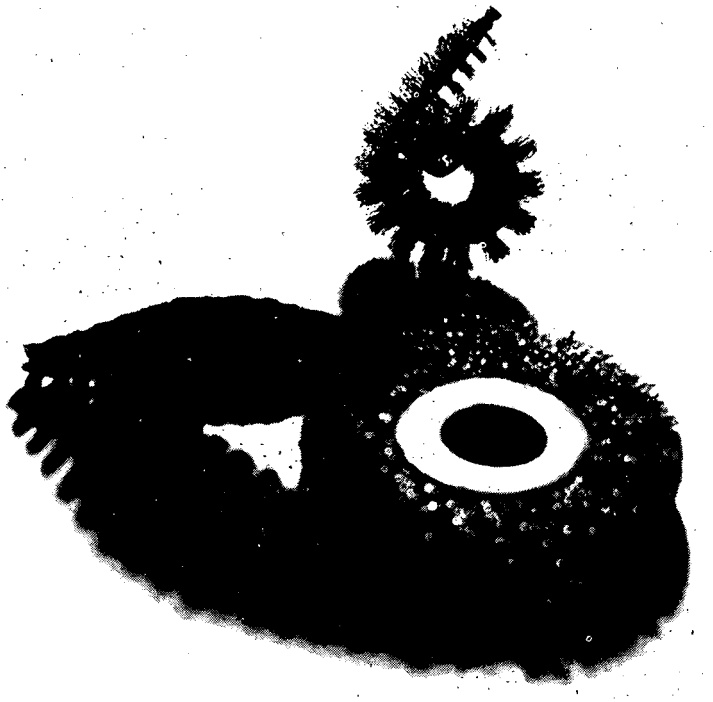
281A-B-C Axiomatic Set Theory (1-1-1) F, W, S
Lecture, three hours. Introduction to the axiomatic theory of sets through the Gödel-Cohen theory. Prerequisites: Mathematics 150A-B-C or consent of instructor.

295A-B-C Partial Differential Equations (1-1-1) F, W, S
Lecture, three hours. Local and global theory of partial differential equations: analytic, geometric, and functional analytic methods. Prerequisites: Mathematics 210A-B-C, or equivalent, or consent of instructor.

297A-B-C Colloquium (¼-¼-¼) F, W, S
Weekly colloquia on topics of current interest in mathematics. Prerequisite: graduate standing.

298A-B-C Seminar (¼ to ¾) F, W, S
Seminars organized for detailed discussion of research problems of current interest in the Department. The format, content, frequency, and course value are variable. Prerequisite: permission of the Department.

299A-B-C Supervised Reading and Research (1-1-1) F, W, S



Julia London, social science

department of physics

The Physics Department is interested in giving its majors and graduate students the opportunity to be heard in all matters directly concerned with undergraduate and graduate instruction.

At the present time undergraduate physics majors and physics graduate students participate in the academic affairs of the Physics Department by serving as full members of the student-faculty teaching evaluation committee and the computer users advisory committee. Undergraduate students also serve on the department's undergraduate curriculum committee.

UNDERGRADUATE PROGRAM

Courses in the Physics Department are designed to meet the needs of many kinds of students, from those students without facility in mathematics whose main interests lie in the humanities or the arts to those students with professional goals in science and engineering. The three lower-division sequences in physics are distinguished by their intended audience, their mathematical prerequisites, and the extent to which they offer preparation for more advanced courses. These aspects of the beginning courses are summarized in the following table.

	Physics 3	Physics 5	Physics 10-20
Intended Audience	Premedical students, biological sciences majors	Physics, chemistry and engineering majors	Nonscience majors
Mathematical Prerequisites	Algebra and trigonometry; concurrent enrollment in Math 2 (Calculus) recommended	Calculus (Mathematics 2A); knowledge of computer programming is recommended	None
Preparation for Advanced Courses	Physics 5C with permission	All upper-division courses in physics	None

Requirements for the Bachelor's Degree

University Requirements: See page 31.

School Requirements: None.

Departmental Requirements

Physics 5A-B-C-D-E with laboratory; six quarter courses numbered between 110 and 149; two quarters of advanced laboratory (Physics 151-152); Mathematics 2A-B-C; Mathematics 3A-B-C or 140A-B-C; three courses from Mathematics 141A-B-C, 142A-B-C, 144A-B-C, or Physics 161A-B-C with Physics 161A-B-C particularly recommended; and 3 additional upper-division courses chosen from the Schools of Physical Sciences, Biological Sciences, Engineering, or the Department of Information and Computer Science. Alternative requirements will be developed for students with special interests.

Planning a Program of Study

Physics 3 is a one-year course suitable for pre-medical students, students majoring in biological sciences, and nonscience majors. It surveys most of the

important branches of physics with strong orientation toward modern physics. Laboratory work accompanies the course. Nonscience majors with some mathematical skill may wish to consider Physics 3 as an alternative to Physics 10-20.

A student who decides to major in Physics after completing Physics 3 with a grade of A or B may, with the consent of the Department, enroll in Physics 5C. The pre-medical physics requirement may be met with Physics 3 or with Physics 5A-B-C.

Physics 5 is an intensive five-quarter course for physics, chemistry, engineering, and other students interested in a careful quantitative approach to the subject. Laboratory work accompanies the course. Students expecting to enroll in the entire five-quarter sequence of Physics 5 should enroll in Mathematics 3A concurrent with Physics 5C. Students planning to enroll in only three quarters of Physics 5 need not enroll in Mathematics 3A. The recommended knowledge of computer programming may be gained by enrolling in Information and Computer Science 1, usually in the fall quarter of the freshman year, or in Physics 1. Biological sciences majors with facility in calculus should consider Physics 5 as an alternative to Physics 3.

Physics courses numbered between 10 and 20 are one-quarter general education courses intended for nonscience majors. The content and format of these courses will vary from year to year. In general, these courses will not include regular laboratory work.

Courses numbered above 110 are for physics majors and other qualified students. This series of courses in the upper-division curriculum is sufficiently broad to provide programs both for the physics major who does not intend to pursue the study of physics beyond the Bachelor's Degree level and for the physics major preparing for a professional career in physics. The physics major with a career goal in medicine, law, teaching, or business, for example, should emphasize the Physics 130 series, which covers most of the important phenomena of physics. The physics major preparing for graduate work in physics should include most of the Physics 111 series in his program. Any major who is so inclined can take more than the minimum two quarters of advanced laboratory work. Able students may begin the Physics 111 series in their sophomore year.

Courses numbered between 110 and 130 emphasize the mathematical and theoretical structures that have unified our understanding of nature. Those numbered between 131 and 149 emphasize particular domains of the structure of matter. Laboratory work is assigned to separate courses, 151-153.

The programs of transfer students will be decided after individual consultation.

Since many graduate physics departments require a reading knowledge of one foreign language, physics majors planning graduate work should, if possible, study some Russian, German, or French. Introductory courses in biology and chemistry are also recommended options. Every physics major should avoid overspecialization and wisely use his undergraduate years to explore some areas remote from physics.

Sample Programs

A typical course program for physics majors considering the possibility of graduate study in physics or astronomy is shown below. Three of the electives

in the senior year may be physics graduate courses. A student with a weak background may want to postpone Physics 130 and Physics 131 until the senior year.

	FALL	WINTER	SPRING
FRESHMAN	Math. 2A Chem. 1A ICS 1 or Physics 1 Elective	Math. 2B Chem. 1B Physics 5A Elective	Math. 2C Chem. 1C Physics 5B Elective
SOPHOMORE	Math. 3A Physics 5C Elective Elective	Math. 3B Physics 5D Elective Elective	Math. 3C Physics 5E Elective Elective
JUNIOR	Physics 161A Physics 111A Physics 130 Elective	Physics 161B Physics 111B Physics 131 Elective	Physics 161C Physics 112A Physics Elective Elective
SENIOR	Elective Physics 151 Physics 112B Elective	Math. 144A Physics Elective Physics 115 Elective	Math. 144B Physics 152 Physics 116 Elective

Physics majors with interests other than graduate work in physics or astronomy need not take as many physics courses as indicated above. As a guide to preparing a more suitable program, the department makes the following suggestions.

The course program of physics majors considering the possibility of graduate school in engineering should contain at least the following courses:

Physics 111A-B, 112A-B, and three to six engineering courses.

The course program of physics majors considering graduate work in chemistry, biology, or various interdisciplinary areas should contain:

Physics 111A, 112A-B, 115, 130, 131; Chemistry 51A-B-C; and Biological Sciences 101A-B-C.

The course program of physics majors considering a teaching career in the public schools or the community colleges should contain at least:

Physics 111A, 112A-B, 130, 131; Education 171 and either 170, 172, or 175; and additional preparation in some area of science or mathematics. Courses from the Physics 10-20 sequence may be appropriate.

The course program of physics majors considering graduate work in the history of science should contain:

Physics 111A-B, 112A-B, and 130, 131; History 29A-B-C; 133E, 180B. Courses from the Physics 10-20 sequence may be appropriate.

GRADUATE PROGRAMS

The Department offers the M.A. and the Ph.D. degrees in physics, the first in recognition of demonstrated knowledge of the basic facts and theories of physics, the second primarily in recognition of demonstrated capacity for independent research.

All new graduate students take an entrance examination shortly before the beginning of the fall quarter. This examination is not "pass" or "not pass." It serves only to help the student and his advisor decide on the best program of study.

Complementing the formal courses, the Department offers regular colloquia and informal seminars. The graduate student is a member of an intellectual community and is expected to participate fully in these Department activities. In addition to the regular research seminars in solid state, high energy, and plasma physics, a teaching seminar meets once each week for the purpose of exploring techniques of instruction and improving graduate student teaching performances. This seminar introduces teaching assistants to the instructional program of this and related departments and gives students an opportunity by means of video-tape to observe and criticize their own teaching methods.

About 60 students of physics were enrolled in 1972-73. Active programs of research are underway in high-energy physics, solid state physics, low temperature physics, plasma physics, mathematical physics, and astrophysics.

Sources of support available to graduate students include teaching assistantships, research assistantships, fellowships, and traineeships. For students admitted with financial aid, continuing support in later years is normal.

Students planning to pursue graduate work in physics should obtain a copy of the booklet *Physics* from the Physics Department.

Master of Arts in Physics

The requirements for the M.A. degree are: (1) three quarters of residence; and (2) mastery of graduate course material, which may be demonstrated either (2a) by passing, with an average grade of B or better, a *minimum* of nine graduate courses numbered between 200 and 259 and a written comprehensive examination, or (2b) by passing the Ph.D. qualifying examination. Under special circumstances, a research project and thesis may be accepted in lieu of proficiency in some of the graduate course material. There is no foreign language requirement for the M.A. degree.

A typical program in preparation for the written examination for the M.A. degree would consist of twelve courses:

211 (Class. Mech.)
213A-B (Elec. Th.)
212A-B (Math. Phys.)
214A-B (Stat. Phys.)
215A-B (Quant. Mech.)
Three electives chosen from 217A-B-C and 218A-B-C sequences, or undergraduate upper-division courses.

Doctor of Philosophy in Physics

The principal requirements for the Ph.D. degree are six quarters of residence, passage of a written and an oral examination, and successful completion and defense of a dissertation reporting results of original research. In addition, the Ph.D. candidate must complete moderate graduate course requirements. There is no foreign language requirement for the Ph.D. degree.

1. Residence. Up to three of the six required quarters of residence may be waived for students who have had graduate work at another institution.

2. Course Requirements. The student is required to exhibit mastery of the basic sequences, Mathematical Physics, Classical Mechanics and Electromag-

netic Theory, Quantum Mechanics, Relativistic Quantum Mechanics, and Statistical Mechanics. In addition, nine graduate-level quarter courses, other than the basic sequences, and numbered less than 259, are required. These courses must be passed with an average grade of B or better.

3. Qualifying Examination. For advancement to Ph.D. candidacy, a student must pass a qualifying examination consisting of a written part and two oral parts. The written part covers a broad range of fundamentals of physics at the advanced undergraduate and graduate levels. The first part of the oral exam will be administered shortly after the written examination. All members of the first oral committee will be faculty from the Physics Department. The second part of the oral examination will be taken approximately one year after successful completion of the written exam and the first oral. The committee that administers the second oral examination will contain one or two faculty members from outside the Physics Department. The second oral will cover principally material related to the broad and general features of the student's thesis area. The written portion of the qualifying examination will generally be given once each year, in September, just prior to the start of classes. The examination may be taken by some students after one year of graduate study. A second attempt will be permitted if the first is not successful. A third attempt will be permitted only in extraordinary circumstances.

4. Dissertation. A dissertation summarizing the results of original research performed by the student under the supervision of a faculty member in the Department will be required for the Ph.D. degree. The criterion for the acceptability of a dissertation by the Department is that it be suitable for publication in a scientific journal. The dissertation must not have been submitted to any other institution prior to its submission to the Physics Department at UCI.

5. Defense of Dissertation. Upon completion of the dissertation, the student will take an oral examination, open to the public, before his doctoral committee.

6. Suggested Course Sequences. Typical programs for the first two years designed to prepare the student for Ph.D. qualification and provide him with the foundation necessary for understanding and participating in modern research might include:

First Year: (Classical Mechanics); 213A-B (Electromagnetic Theory); 212A-B-C (Mathematical Physics); 215A-B (Quantum Mechanics); 215C (Relativistic Quantum Mechanics).

In the second year of graduate study, the student may begin to take courses that will provide a broad background for his thesis area. The following sequences represent a typical second-year program:

For the student with an interest in solid state physics:

214A-B (Statistical Physics); 214C (Many Body Theory); 235A (Advanced Quantum Mechanics); 232A-B (Group Theory); 218A-B-C (Plasma Physics, Low Temperature Physics, Solids).

For the student with an interest in elementary particle physics:

235A-B (Advanced Quantum Mechanics); 232B (Group Theory); 217A-B-C

(Elementary Particle Physics, Nuclei, Astrophysics); 214A-B (Statistical Physics); 214C (Many Body Theory) or 218C (Solids).

For the student with an interest in plasma physics:

214A-B (Statistical Physics); 214C (Many Body Theory); 217A-B-C (Elementary Particle Physics, Nuclei, Astrophysics); 218A-C (Plasmas, Solids); Elective.

PHYSICS FACULTY

Richard F. Wallis, Ph.D. Catholic University of America, *Professor of Physics and Chairman of the Department*
Myron Bander, Ph.D. Columbia University, *Associate Professor of Physics and Vice Chairman of the Department*
Gergory A. Benford, Ph.D. University of California, San Diego, *Assistant Professor of Physics*
Alfred M. Bork, Ph.D. Brown University, *Professor of Physics and Information and Computer Science and Vice Chairman of the Department of Physics*
Herbert H. Chen, Ph.D. Princeton University, *Assistant Professor of Physics*
Paul E. Condon, Ph.D. Princeton University, *Associate Professor of Physics*
Mark A. Mandelkern, Ph.D. University of California, Berkeley, *Assistant Professor of Physics*
Alexei A. Maradudin, Ph.D. University of Bristol, *Professor of Physics*
Meinhard E. Mayer, Ph.D. Parhon University (Rumania), *Professor of Physics and Mathematics*
Douglas L. Mills, Ph.D. University of California, Berkeley, *Associate Professor of Physics*
William H. Parker, Ph.D. University of Pennsylvania, *Associate Professor of Physics*
John R. Pellam, Ph.D. Massachusetts Institute of Technology, *Professor of Physics*
Norman Rostoker, D.Sc. Carnegie Institute of Technology, *Professor of Physics*
Frederick Reines, Ph.D. New York University, *Professor of Physics and Dean of Physical Sciences*
Nathan Rynn, Ph.D. Stanford University, *Professor of Physics*
Jonas Schultz, Ph.D. Columbia University, *Professor of Physics and Dean of the Graduate Division*
Gordon L. Shaw, Ph.D. Cornell University, *Professor of Physics*
Dennis J. Silverman, Ph.D. Stanford University, *Assistant Professor of Physics*
Virginia L. Trimble, Ph.D. California Institute of Technology, *Assistant Professor of Physics*
Sukekatsu Ushioda, Ph.D. University of Pennsylvania, *Assistant Professor of Physics*
Gerard Van Hoven, Ph.D. Stanford University, *Assistant Professor of Physics*

LOWER-DIVISION COURSES IN PHYSICS

See page 5 for explanatory notes on course listings.

1 Introduction to Physics (1) F
Lecture, three hours. An introduction to and overview of physics. Introduction to computing for the scientist and engineer. Mathematical review and introduction to calculus. Analysis of experimental data. Physical units.

3A-B-C Basic Physics (1-1-1) F, W, S
Lecture, three hours; discussion, one hour. Fall: Survey of physical theory; Newtonian mechanics. Winter: Electricity and magnetism; radiation and waves; optics; heat phenomena. Spring: Twentieth-century physics; relativity; quantum ideas; atomic and nuclear physics. Concurrent enrollment in Physics 3L is required each quarter. Prerequisite: Mathematics 2 (prior or concurrent).

3LA-B-C Basic Physics Laboratory (¼-¼-¼) F, W, S
Laboratory accompanying Physics 3, three hours. (Laboratory requirement of Physics 3 may be waived by consent of instructor for non-science majors.)

5A-B-C-D-E Fundamental Physics (1-1-1-1-1) W, S, F, W, S
Lecture, three hours; discussion, one hour. Winter: Newtonian mechanics; facility in calculus is assumed, knowledge of computer programming is recommended. (Corequisite: Mathematics 2B.) Spring: Wave phenomena; relativity. (Corequisite: Mathematics 2C.) Fall: Electrostatics; magnetostatics; currents and fields; circuit elements; Maxwell's equations. (Prerequisite: Mathematics 2A-B-C.) Winter: Quantum theory; atoms and nuclei. (Corequisite: Mathematics 3B.) Spring: Statistical physics; thermal phenomena. (Prerequisite: Physics 5D.) Concurrent enrollment in Physics 5L is required each quarter.

5LA-B-C-D-E Fundamental Physics Laboratory (¼-¼-¼-¼-¼) W, S, F, W, S
Laboratory accompanying Physics 5, three hours. (Laboratory requirement of Physics 5 may be waived by consent of instructor for non-science majors.)

Physics Courses for Non-Majors

Courses numbered between 10 and 20 are especially designed for students majoring in programs other than the Physical Sciences.

11 Super-Cold (1)
Lecture, three hours. Lecture and demonstrations on superfluidity, superconductivity, and other phenomena near the absolute zero of temperature. Not offered in 1973-74.

12 Newton! (1) W
Lecture, three hours. Origins of modern science in Newton's pioneering work in mechanics. Emphasis on historical, philosophical, and sociological developments. Directed toward students in humanities, social sciences, and fine arts. High school geometry required.

13 Physics of the Environment (1)
Lecture, three hours. Helps students understand the problems of the environment by emphasizing the physical principles on which our technological society is based. Nuclear power, flow of energy in the environment, thermal and noise pollution, etc. Not offered in 1973-74.

14 Physics for the Artist (1) W
Lecture, three hours. Physical phenomena through demonstrations, discussion, and individual experimentation. Laboratory-studio investigations of techniques for producing motion, light imagery, and physical interaction with the observer. Students must be willing and able to produce experimental works of art.

15 Cosmology – Man's Place in the Universe (1) W
Lecture, three hours. The overall structure of the universe and its changes in time; the evolution of galaxies, stars, and planets, the conditions necessary for life and possibilities for extra-terrestrial intelligent life.

16 Rainbows and Things (1) S
Lecture, three hours. A variety of natural phenomena, some common, some less obvious, which have intrigued man for centuries. Among the subjects: rainbows, the setting sun, the planets, and the nucleus of atoms.

17 Physics through Science Fiction (1) F
Lecture, three hours. Contemporary works of science fiction used to stimulate consideration of physics in many oft-used ideas about man's future. Cosmology, rela-

tivity, planetary physics, and speculative ideas as time travel and teleportation. High school physics or consent of instructor required.

18 Physics and Physicists in the Atomic Age (1)
Lecture, three hours. The famous physicists of the atomic age and their contributions to science. Discussion of the birth of modern physics in the 1920's and 30's; the impact of war on modern science; the conflicts, discrepancies, and personalities of modern physics. Not offered in 1973-74.

19 Scientists and Social Responsibility (1)
Lecture, three hours. A non-technical discussion of the growth of 20th-century science in relation to human affairs. Not offered in 1973-74.

UPPER-DIVISION COURSES IN PHYSICS

111A-B Classical Mechanics (1-1) F, W
Lecture, three hours; discussion, one hour. Mechanics of particles through Lagrangian and Hamiltonian methods; rigid bodies; relativity; coupled systems. Prerequisite: Physics 5D or consent of instructor.

112A-B Electromagnetic Theory (1-1) S, F
Lecture, three hours; discussion, one hour. Electrostatics; magnetostatics; properties of matter; Maxwell's equations; relativity; radiation; optics. Prerequisite: Physics 5C. Corequisite: Mathematics 3.

115 Statistical Physics (1) W
Lecture, three hours. Microscopic theory of temperature, heat, and entropy; kinetic theory; multicomponent systems; quantum statistics. Prerequisites: Physics 5E, Mathematics 3C.

116 Thermodynamics (1) S
Lecture, three hours. Macroscopic theory of temperature, heat, and entropy; mathematical relationships of thermodynamics; heat engines; phase transitions. Prerequisites: Physics 5E, Mathematics 3C.

130 Quantum Mechanics (1) F
Lecture, three hours; discussion, one hour. Time-independent and time-dependent Schrödinger equation; one-dimensional problems; some theorems of quantum mechanics; central-field problem; Legendre functions. Prerequisites: Physics 5D, Mathematics 3C.

131 Atomic Physics (1) W
Lecture, three hours. Early quantum results; black-body radiation; the hydrogen atom; atomic structure and atomic spectra; fine and hyperfine structure; Zeeman effect; transitions and selection rules. Prerequisite: Physics 130.

132 Nuclear Physics (1) S
Lecture, three hours. Nucleons and nuclear structure; radioactivity; neutron-proton scattering; the deuteron; nuclear reactions. Prerequisite: Physics 130.

133 Solid State Physics (1) S
Lecture, three hours. Phenomena of solids and their interpretation in terms of quantum theory. Prerequisites: Physics 5D-E.

135 Plasma Physics (1) W
Lecture, three hours. Ionization and discharge mechanisms; microscopic motions and kinetic equations; macroscopic fluid theories; electrodynamics of plasma; wave propagation; examples of laboratory and cosmic phenomena. Prerequisites: Physics 5D-E.

136 Elementary Particles (1)
Lecture, three hours. Experimental techniques and theoretical concepts of high-energy phenomena: accelerators and detectors; classification of particles and inter-

actions of particle properties; symmetries and mass multiplets; production and decay mechanisms. Prerequisite: Physics 130. Not offered in 1973-74.

141 Modern Optics (1) W
Lecture, three hours. Interaction of radiation with matter; lasers; non-linear optics; optical properties of solids; absorption and scattering of light; modern spectroscopic techniques. Prerequisites: Physics 112B and 130.

144A Astrophysics: Stellar Structure and Evolution (1)
Lecture, three hours. Stars: their structure and evolution; physical state of the interior; the Hertzprung-Russell classification; star formation; nuclear burning; giant and dwarf stars. Not offered in 1973-74.

144B Astrophysics: Spectroscopy (1) W
Lecture, three hours. Stellar spectra: observational and theoretical aspects. Radiative transfer and formation of spectral lines. Temperature, density, and composition of stars. Sunspots and solar activity. Spectra of nebulae and other dilute gases. Prerequisite: Physics 5E or consent of the instructor.

145 High Energy Astrophysics (1) S
Lecture, three hours. Production of radiation by high energy particles. Evolution of galactic nuclei, radio galaxies, quasars, and pulsars. Cosmic rays and the cosmic background radiation. Prerequisite: Physics 5E or consent of the instructor.

146 Galaxies and Cosmology (1)
Lecture, three hours. Structure and evolution of galaxies. General relativistic models of the universe. Observational tests of cosmological models. Early phases of the universe. Unconventional cosmologies. Not offered in 1973-74.

150 Electronics (1) F
Lecture, two hours; laboratory, four hours. Applications of modern semiconductor devices to physical instrumentation. Characteristics of semiconductor devices, integrated circuits, analog and digital circuits. Lecture and laboratory. Prerequisite: Physics 5E or consent of instructor.

151-152 Advanced Laboratory I-II (1-1) F, S
Lecture, one hour; laboratory, eight hours. Experiments in atomic, nuclear, and solid state physics. Zeeman effect, electron spin resonance, nuclear magnetic resonance, optical spectroscopy, and x-ray diffraction. Prerequisites: Physics 5D-E or consent of instructor. Physics 130-131-132 recommended.

160 Group Theory for Physical Science Students (1)
Lecture, three hours. Abstract group theory and group representations. Emphasis will be on the application of symmetry principles to understand various physical phenomena taken from mechanics, atomic spectroscopy, solid state and molecular physics. Not offered in 1973-74.

161A-B-C Mathematical Methods for Physicists (1-1-1) F, W, S
Lecture, three hours; discussion, one hour. Same as Math 143A-B-C. This course provides the mathematical tools for upper-division physics courses. Topics to be treated include ordinary and partial differential equations, special functions, boundary value problems, Fourier and Laplace transforms, linear algebra and tensor analysis, and complex functions. Application of mathematical methods to physical problems will be stressed. Prerequisites: Mathematics 3A-B-C, 140A-B-C, or equivalent.

187A-B Medical Physics (1-1) W, S
A survey of current applications of physics to medicine: radiotherapy, nuclear medicine, ultrasound, cryogenics, thermography, lasers, electronic techniques, etc. Both basic fundamentals and applications will be studied. Intended primarily for premedical and science students. Prerequisite: Physics 3 or 5 series, or consent of the instructor.

187LB Medical Physics Laboratory (¼) S
Optional laboratory accompanying Physics 187. Experiments illustrating fundamentals

of medical physics. Also includes field trips to local hospitals to observe and possibly participate in patient treatment.

190 Contemporary Ideas in Physics (1)
Lecture, three hours. Intensive exploration of some contemporary ideas in physics, with the specific topics to be determined by the interests of the enrolled students. Open to lower-division students with consent of instructor. Not offered in 1973-74.

195 Undergraduate Research (1)
Open to seniors and occasionally to juniors with consent of Department.

199 Readings on Special Topics (1)
With consent of Department.

GRADUATE COURSES IN PHYSICS

211 Classical Mechanics (1) F
Lecture, three hours. Variational principles, Lagrange's equations; applications to two body problems, small oscillation theory and other phenomena. Hamilton's equation, Hamilton-Jacobi theory.

212A-B-C Mathematical Physics (1-1-1) F, W, S
Lecture, three hours. Ordinary differential and partial differential equations; complex variables and special functions; matrices, eigenvalues and eigenvectors; numerical methods; perturbation theory; integral equations; calculus of variations, elements of group theory.

213A-B Electromagnetic Theory (1-1) W, S
Lecture, three hours. Electrostatics; magnetostatics; relativity; classical electron theory; fields in vacuum and matter; retardation; radiation and absorption; dispersion; propagation of light; diffraction; geometric optics; theories of the electric and magnetic properties of materials; scattering.

214A-B Statistical Physics (1-1) F, W
Lecture, three hours. Maxwell-Boltzmann, Bose-Einstein, and Fermi-Dirac statistics; ensemble theory, ideal and imperfect gases; thermodynamic properties of solids; cooperative phenomena; phase transitions of first and second order; fluctuations.

214C Many Body Theory (1) S
Lecture, three hours. The Green's function approach to the theory of many body systems at finite temperatures will be discussed. The techniques of diagrammatic perturbation theory will be introduced and applied to a few specific problems to illustrate the methods.

215A-B Quantum Mechanics (1-1) F, W
Lecture, three hours. Foundations of quantum theory; Dirac notation, basic operators and their eigenstates; perturbation theory; variational method; spin; Clebsch-Gordon coefficients; structure of atomic systems; scattering theory; formal collision theory; semi-classical radiation theory.

215C Relativistic Quantum Mechanics (1) S
Lecture, three hours. Quantization of the electromagnetic field, relativistic quantum mechanics, second quantization of many body systems.

217A Particles (1) F
Lecture, three hours. An advanced survey of high energy phenomenology. Elementary particle quantum numbers, isotopic and unitary spin multiplets, symmetries (e.g., parity, charge conjugation, and time reversal), S-matrix, production and decay mechanisms, and current trends in theory.

217B Nuclei (1)
Lecture, three hours. Topics will be selected from: the two-body problem, low energy nucleon-nucleon scattering, structure of light nuclei, nuclear reactions and resonances, models of complex nuclei, theories of the fission process, nuclear shapes and deformations, and alpha, beta, and gamma emission processes. Not offered in 1973-74.

217C Astrophysics (1) S
Lecture, three hours. Stellar structure and evolution; formation of the elements; supernova; pulsars; quasars; origin of cosmic rays.

218A Plasma Physics (1) S
Lecture, three hours. Orbit theory, hydromagnetics, plasma waves, applications to astrophysics and controlled fusion.

218B Low Temperature Physics (1) W
Lecture, three hours. Possible topics include: properties of superfluid helium, and phenomenological theories of superfluid helium, phenomenology of the superconduction state, discussion of experimental methods in low temperature physics.

218C Solids (1)
Lecture, three hours. Possible topics include: crystal properties, lattice dynamics of solids, electronic band structure of solids, theories of metals and semiconductors, magnetism and superconductivity, with special emphasis on elementary excitation in solids. Not offered in 1973-74.

232A-B Applications of Group Theory (1-1) F, W
Lecture, three hours. The role of symmetry in physical problems. First quarter, finite groups; second quarter, continuous groups. 232B can be taken without 232A. Abstract group theory and theory of group representations. Perturbation theory, selection rules, crystal tensors, molecular vibrations, Jahn-Teller theorem, directed valence, time reversal symmetry, double groups, crystal field splittings of atomic levels. Continuous groups and particle physics. Full rotation group, Clebsch-Gordon coefficients, the Wigner-Eckart theorem, Racah coefficients, the Lorentz group, unitary groups.

235A-B Advanced Quantum Mechanics (1-1) F, W
Lecture, three hours. Fall: Lagrangian formalism, second quantization, interacting fields, perturbation theory. Winter: Feynman graph techniques, renormalization, symmetries, PCT theorem, connection between spin and statistics.

237A-B-C Elementary Particle Theory (1-1-1) F, W, S
Lecture, three hours.

238A-B-C Solid State Theory (1-1-1) F, W, S
Lecture, three hours. Bonding in solids; crystal symmetry and group theory; elastic properties of crystals; lattice vibrations, interaction of radiation with matter; cohesion of solids; the electron gas; electron energy bands in solids; ferromagnetism; transport theory; semiconductors and superconductors; many-body perturbation theory.

239A-B-C Plasma Physics (1-1-1) F, W, S
Lecture, three hours. The properties of plasmas, with major emphasis on fully ionized gases. Introduction to modern theoretical treatments. Applications to problems such as controlled thermonuclear fusion, propulsion, energy conversion, and the space sciences.

Special Topics in Physics (260-279)

These courses are designed to acquaint students with the basic concepts and methods underlying current research activity in selected branches of physics.

260A-B-C Topics in Solid State Physics (1-1-1) F, W, S
Lecture, three hours. Seminar designed to acquaint students with recent advances in solid state physics. Lectures from the Physics Department (both faculty and graduate students), other UCI departments, and other institutions. May be repeated. Prerequisite: consent of instructor.

261A-B-C Advanced Plasma Seminar (1-1-1) F, W, S
Lecture, three hours. Advanced topics in plasma physics: wave propagation, nonlinear effects, kinetic theory and turbulence, stability problems transport coefficients, containment. Applications to controlled fusion and astrophysics. Students will do much of the work. Prerequisite: Physics 225 or equivalent.

262A-B-C Topics in Modern Astrophysics (1-1-1) F, W, S
Lecture, three hours. Not offered in 1973-74.

263A-B-C High Energy Seminar (1-1-1) F, W, S
Discussion of advanced topics and reports of current research results in theoretical experimental high energy physics. May be repeated for credit. Prerequisite: consent of instructor.

265 General Relativity (1) S
Lecture, three hours.

266A-B-C Advanced Mathematical Methods (1-1-1) F, W, S
Lecture, three hours. Beyond the standard subjects now taught to physicists, introducing future theorists to the language and methods of post-1950 mathematics. Prerequisites are the standard Mathematical Physics courses and a willingness to participate actively. Not offered in 1973-74.

267A-B-C Current Problems in High Energy Physics (1-1-1) F, W, S
Lecture, three hours. Study of current problems in experimental and theoretical high energy physics. Lectures mainly given by students. Course can repeatedly be taken for credit. Prerequisite: consent of instructor.

295 Experimental Research (1 to 3)
With the approval of a faculty member a student may pursue a research program in experimental physics. Typical areas include: low temperature physics, plasma physics, spectroscopy, solid state physics, and elementary particle physics.

296 Theoretical Research (1 to 3)
With the approval of a faculty member a student may pursue a research program in theoretical physics. Typical areas include: solid state physics, low temperature physics, plasma physics, and elementary particle physics.

299 Reading of Special Topics (1)
With special consent from a faculty member who will agree to supervise his program, a student may receive course credit for individual study of some area of physics.

School of Social Sciences

Creel Froman
Dean

Undergraduate and graduate education in the School of Social Sciences at UCI involves participation in an experiment. The School includes the traditional subject areas of anthropology, economics, geography, linguistics, political science, psychology, and sociology. However, the program, faculty, and students differ substantially from conventional counterparts elsewhere. The specific details of the differences are indicated below. The details are elaborations of a commitment on the part of the faculty and students to a modern social science. This commitment leads to educational programs with a three-way emphasis.

First, educational programs are built upon systematic empirical observation and quantitative analysis of human behavior. Thus, social science students must become familiar with the mathematical, computational, and statistical tools underlying modern social science. The availability of high-speed electronic computers, the development of mathematics oriented toward the problems of the social sciences, and the refinement of techniques for sampling, observing, and modifying human behavior have contributed major new elements to social science.

Second, many of the most interesting questions in the study of human behavior cannot be fixed within the traditional disciplinary boundaries of anthropology, economics, geography, cognitive linguistics, political science, psychology, and sociology. Some of the new and evolving areas which cross those orthodox disciplinary boundaries are political economy, geo-psychology, ethno-sociology, and psycholinguistics.

Third, important new problems confront society, and social scientists have a responsibility to help solve these problems. A rapidly changing technology, population explosion, urban concentration, the thrust of once under-developed societies, the strains of race relations, and the combined efforts of men and machines in problem solving, are only a few of the problems which confront today's social scientists. To approach these and other contemporary problems, training in the social sciences must emphasize the basic analytical tools and the processes by which knowledge of human behavior is gained. Such training must also emphasize the exploration of the relations among the social sciences and between the social sciences and other disciplines.

At UCI, education in the social sciences is built upon the assumption that students play an active role in the entire educational process. To facilitate education, various resources are provided – students, faculty, courses, programmed instruction, library, community, lectures, seminars, colloquia, laboratories, research aids, reading lists, discussion groups, and examinations. The faculty provides succor, advice, and occasional wisdom. Students, individually

and collectively, make contributions to the learning process – by participating in regular seminars, proposing new educational materials, developing new programs, and by systematic self-directed study. The programs described here represent a careful effort on the part of faculty to define a modern approach to social science. They are not sanctified by tradition, authority, or pride. From time to time the faculty expects to propose modifications in the programs. It welcomes similar proposals from students, both to meet the educational needs of individual students and to improve the quality and relevance of the general program.

Degrees Offered in the School

Social Sciences ..... B.A., Ph.D.
Political Science ..... Ph.D.
Psychology ..... Ph.D.

Honors at graduation, e.g., *cum laude, magna cum laude,* or *summa cum laude,* are awarded on the basis of grade point average. Of the graduating seniors, approximately 1% will be awarded *summa cum laude,* 3% *magna cum laude,* and 8% *cum laude.*

Bachelor of Arts – Normally, the B.A. degree offered in the School carries only the general designation of "Social Sciences." However, a qualified student may request the Bachelor's Degree in one of the following sub-fields: anthropology, economics, geography, political science, psychology, or sociology. Approval of such petitions is based on evaluation of the quality and extent of a student's training in the discipline under consideration.

Doctor of Philosophy – The Ph.D. Degree is offered in three areas: political science, psychology, and social sciences. Within the latter category, a student may concentrate in areas such as anthropology, cognitive linguistics, economics, geography, sociology, and mathematical social science.

UNDERGRADUATE PROGRAMS

Requirements for the Bachelor's Degree in Social Science

The basic undergraduate degree program in the School of Social Sciences is a program in social sciences, and all students must fulfill the requirements for that degree. A student qualifies for a degree in social sciences by exhibiting:

A. A basic understanding of important fields outside the social sciences. (See page 31 under University Requirements.) The normal program for majors in the School satisfies part of the breadth requirement (three courses in the School of Physical Sciences) through the School's mathematics requirement.

B. Familiarity with some basic mathematical, computational, and statistical tools underlying modern social science. Normally, this requirement is met by passing three courses in mathematics (Mathematics 5A-B-C or Mathematics 2A-B-C) and one course in computer science.

C. An understanding of the fundamental concepts, analytical tools, and methods of social science. This requirement is met by taking two courses in the School of Social Sciences bearing a one-digit course number.

D. An understanding of important advanced areas in social science. Normally, this requirement is met by passing satisfactorily nine upper-division

courses in the School of Social Sciences, where at least three of these courses comprise a module. (See "Courses in Social Science" below for a discussion of course modules.) For modules which are listed with more than three courses, the student may normally elect to take any subset of three courses in the module. Appropriate substitutions may be made upon petition. In particular, for modules which are listed with less than three courses, the student may petition to complete the module with appropriate courses.

E. Four additional social science courses from any level.

A student who has met the requirements for a Bachelor's Degree in social sciences and who wishes to receive the degree in one of the sub-fields in which he is qualified (i.e., anthropology, economics, geography, political science, psychology, or sociology) may do so through certification of his qualifications by a petition approved by the Dean and two faculty members in the sub-field.

Students are reminded that the Pass/Not Pass option is normally not applicable to course requirements B through E. (See page 74 under Academic Policies.)

Planning a Program of Study

The requirements above are specified in the form of knowledge gained rather than specific courses taken, and the School encourages students to satisfy requirements by examination. Requirements have been made in order to facilitate the planning of a basic program of study in social sciences. Appropriate substitutions may be made for any of these requirements by petition to the Dean.

The following guidelines represent one way of planning a program of study. Since there are many alternative ways to plan a program, students should consult with their assigned faculty advisors or visit the undergraduate advising office (Room 627, Social Science Tower) to design an appropriate program of study.

Students who enter the major in their freshman year might begin by taking a one-digit course in one of the social sciences disciplines, plus Social Science 1, and Mathematics 5A-B-C. In addition, six courses for the breadth requirement and an elective might be taken during the first year. In the sophomore year, the student might complete the course on computing, three courses toward the breadth requirement, four courses in social sciences, and four electives. For students who are planning to go on to graduate school, the freshman and sophomore years can be used to advantage to take courses in theory, research methods, mathematics, and other areas important to graduate study. In the junior and senior years, the student should take courses in specialized areas of social science and should create an individualized program of study through a combination of courses and course modules which fall in his area of interest. Particular attention should be paid to completing an approved three-course module prior to graduation.

Transfer Students

Freshmen and Sophomores: Students transferring to UCI as freshmen or sophomores will fulfill the regular requirements of the four-year program

either through work at UCI or through transfer credit for comparable work elsewhere.

Juniors: Junior transfers with good records at other accredited colleges and universities will normally be presumed to have satisfied requirements A and C above. Students anticipating transfer to UCI in their junior year, however, should attempt to plan their program so as to anticipate the special mathematics requirements of the program (requirement B above). Every effort will be made to accommodate individual variation in background, provided the student is prepared to commit himself to intensive work in areas of deficiency. Ordinarily, the typical two-year program for junior transfers is simply the last two years of the regular four-year program, except that students who have not satisfied the mathematics requirement in the School must do so before graduation.

Seniors: Students wishing to graduate with a degree in the School by transferring in their senior year should plan their work carefully to ensure that the requirements can be met in one year of residence. In general, differences between the program at UCI and programs elsewhere make senior transfers difficult.

Mathematics and Social Science

The mathematics requirement stems from the nature of modern social science. To an increasing extent, the concepts and terms of mathematics, statistics, and computers are an important part of the social scientist's vocabulary. Basic knowledge of these tools is necessary to an understanding of current literature in these fields, to the analysis of data, and to an intelligent use of models in social sciences. Each candidate for a degree in the School of Social Sciences is expected to have a basic knowledge of probability, statistics, and computing. In addition, for students who are preparing for graduate school in an area of social science, it will be important to supplement the minimal mathematics requirements with additional courses related to mathematics and social science methodology. The particular courses which would be recommended are not specified here, however, since they are highly dependent on the major emphasis of the student. A student who is preparing for graduate study should consult his advisor to determine a program of study which will give him the research skills necessary for successful graduate work.

GRADUATE PROGRAMS

The School of Social Sciences offers instruction leading to the Ph.D. degree; it does not offer an M.A. program.

Graduate education at the School is quite different from what exists at most American institutions of higher education. Irvine's uniqueness stems from its three defining characteristics: the emphasis on interdisciplinary and adisciplinary work; the committee system; and the high value placed on students being intellectually self-generating, reflective and innovative. The first two characteristics are, in fact, derivative of the third.

The Interdisciplinary and Adisciplinary Focus: Many social scientists have long found it difficult to classify their intellectual interests within any single of the seven traditional social science disciplines: anthropology, linguistics, economics, geography, political science, psychology, and sociology. For instance, those who are concerned with such problems as authority, choice,

conflict, interaction, organizations, and urban affairs are likely to find the traditional disciplinary boundaries irrelevant. This problem has long been signalled by the existence at major universities of such dual-title graduate programs as those in political economy and social psychology. There would seem to be no purpose, however, in multiplying and recombining these titles endlessly. In fact, to the extent that we consider social science to be the study of human behavior, the number of potential, distinct foci of interest (and corresponding labels which identify these concerns) is only limited by the imaginativeness of social science practitioners. Since the School of Social Sciences at Irvine is totally committed to innovative reflection on the nature of human behavior, we assiduously avoid any barrier to intellectual curiosity. Requiring students only to pursue interests definable by disciplinary or interdisciplinary titles would be such a barrier. Conversely, it would equally be a barrier to imaginativeness to require students *not* to have intellectual concerns which are conveniently encompassed by the traditional disciplines. Hence, the School establishes no artificial limits on the types of concerns which are intellectually worthy of reflection and/or research.

The Committee System: In addition to its interdisciplinary and adisciplinary emphasis, a major defining characteristic of graduate education at the School of Social Sciences is the committee system. Specifically, each student works in close conjunction with at least three faculty members (his or her committee) to devise and carry out a coherent program of study which is "tailor-made" for his or her intellectual interests. Besides taking courses, much of a student's activity involves independent studies with members of his or her committee. As a result of the committee system, graduate students at Irvine play the major role in determining the form of their education. This system works successfully only to the extent that students learn early to be self-generating and reflective.

In sum, the Irvine environment is likely to be congenial for those who are dissatisfied with an education in which they play only a very small role in determining what they should learn, feel uncomfortable when asked to categorize themselves according to a predetermined set of boxes, and seek to be intellectually innovative and imaginative.

General Requirements for the Ph.D.

Length of Study. The faculty envisions a student's Ph.D. program to be of approximately three to four years' duration. The student will devote the first year to the explorations and preparation necessary to defining and mastering a coherent field of study. He will continue this preparation into the second year, during the course of which he will also submit a dissertation proposal. The third year will usually be devoted to dissertation research and writing. In some instances, of course, pre-dissertation work will require more than two years; and those dissertations demanding extensive field research may require more than one year to complete. In addition, all students will be expected to acquire mathematical and language tools appropriate to their studies.

Residence. Intellectual training of the sort we propose requires full-time, undivided commitment. We do not ordinarily accept part-time students.

Teaching. Teaching experience is required of all graduate students for the Ph.D. The requirement is normally fulfilled by the equivalent of 50 percent time as a Teaching Assistant for one academic year.

Mathematics. Much current research in the social sciences employs more or less sophisticated mathematical techniques as a tool for gaining insights into the nature of human behavior. All of our graduate students are expected to have a basic grasp of these techniques. Each student's committee will establish his or her specific requirements.

Language. A knowledge of one foreign language (normally French, German, or Russian) at the level appropriate to the student's research concerns is required. Each student's committee will set his or her specific requirements. For those proposing to engage in field research, this may involve interviewing capabilities. For others, working in areas where little or no foreign language materials are relevant, a correspondingly lower level of competence will be sufficient.

Examinations. The scope and format of the advancement to candidacy examination will be determined by the student's committee who, along with additional members of the faculty (one of whom is not in the School of Social Sciences), will ordinarily serve as the examiners. These examinations may be written or oral or both and will usually be conducted after approximately two years of residence.

Dissertation. The dissertation will normally be supervised by the student's committee. The student will be expected to conduct a colloquium on his dissertation some months after he has initiated his research. This colloquium, designed to give the student scholarly criticism at the point it will do the most good, will replace the customary defense.

Specific Requirements for the Ph.D. in Social Science

The Ph.D. in Social Science is offered to those students whose interests do not fall neatly within traditional disciplinary boundaries – for instance, those who might wish to concentrate their work in such areas as authority, cognition, cognitive linguistics, decision making, development, ethnomethodology, interaction, language and behavior, mathematical behavorial science, organizations, social psychology, and urban affairs.

The general requirements set out above largely describe the Ph.D. program in social science. The course of study will be individually constructed by the student in conjunction with his or her advisors. Besides satisfying the mathematics and language requirements and writing a dissertation, the social science student should be able to demonstrate:

1. Proficiency in some field of inquiry, however defined. It is notoriously difficult to specify exactly what constitutes Ph.D. level competence in a subject matter area. Students will normally be expected to append to their degree programs a bibliography and a list of courses to be undertaken. Proficiency will be tested prior to admission to candidacy by written and/or oral examinations and inspection of the student's completed research papers.

2. An understanding of the major techniques of social analysis and their application in social science disciplines. This understanding must include a grasp of theoretical and empirical techniques, as well as the results achieved from their use.

Specific Requirements for the Ph.D. in Psychology

The course of study in psychology follows closely that of social science. The specific requirements which students are expected to meet are determined by the committee supervising their work.

Specific Requirements for the Ph.D. in Political Science

The course of study in political science follows closely that of social science. The specific requirements which students are expected to meet are determined by the committee supervising their work.

SOCIAL SCIENCES FACULTY

Creel Froman, Ph.D. Northwestern University, *Professor of Social Science and Dean of the School of Social Sciences*

Albert J. Ahumada, Jr., Ph.D. University of California, Los Angeles, *Assistant Professor of Psychology and Social Ecology*

William H. Batchelder, Ph.D. Stanford University, *Associate Professor of Psychology*

Henry Beck, Ph.D. Stanford University, *Assistant Professor of Political Science*

Duran Bell, Ph.D. University of California, Berkeley, *Associate Professor of Economics*

Paul Bernstein, Ph.D. Stanford University, *Assistant Professor of Political and Social Science*

Arnold Binder, Ph.D. Stanford University, *Professor of Psychology and Director of the Program in Social Ecology*

Isabel M. Birnbaum, Ph.D. University of California, Berkeley, *Associate Professor of Psychology* (On leave fall and winter quarter)

John P. Boyd, Ph.D. University of Michigan, *Associate Professor of Mathematical Anthropology*

Myron L. Braunstein, Ph.D. University of Michigan, *Associate Professor of Psychology*

John S. Brown, Ph.D. University of Michigan, *Assistant Professor of Social Science and Information and Computer Science* (On leave)

Michael L. Burton, Ph.D. Stanford University, *Assistant Professor of Anthropology*

Michael Butler, A.B. Harvard University, *Assistant Professor of Social Science and Director of the Farm School*

Douglas K. Chalmers, Ph.D. University of Iowa, *Associate Professor of Psychology*

Benjamin N. Colby, Ph.D. Harvard University, *Professor of Anthropology*

Peter W. Culicover, Ph.D. Massachusetts Institute of Technology, *Assistant Professor of Social Science and Director of Graduate Studies*

James N. Danziger, Ph.D. Stanford University, *Assistant Professor of Political Science*

Richard L. Degerman, Ph.D. Johns Hopkins University, *Associate Professor of Psychology and Associate Dean of the School of Social Sciences*

Robert Dubin, Ph.D. University of Chicago, *Professor of Sociology and Administration* (On leave fall and winter quarter)

James Dunning, Ph.D. Claremont Graduate School, *Lecturer in Social Science and Admissions Officer*

Gordon J. Fielding, Ph.D. University of California, Los Angeles, *Associate Professor of Social Science and Administration* (On leave)

Gordon G. Globus, M.D. Tufts University, *Associate Professor of Psychiatry and Human Behavior*

Louis Gottschalk, M.D. Washington University of St. Louis, *Professor of Psychiatry & Human Behavior, Social Ecology, and Social Science; Chairman of the Department of Psychiatry & Human Behavior*

Henry Hamburger, Ph.D. University of Michigan, *Assistant Professor of Mathematical and Computer Models*

Joe T. Hart, Ph.D. Stanford University, *Associate Professor of Psychology*

Larry A. Hirschhorn, Ph.D. Massachusetts Institute of Technology, *Assistant Professor of Economics*

Sheen T. Kassouf, Ph.D. Columbia University, *Associate Professor of Economics*

Mary Ritchie Key, Ph.D. University of Texas, *Associate Professor of Linguistics and Social Science*

Jerome Kirk, Ph.D. Johns Hopkins University, *Assistant Professor of Sociology and Anthropology*

Charles Lave, Ph.D. Stanford University, *Assistant Professor of Economics*

Jean C. Lave, Ph.D. Harvard University, *Assistant Professor of Anthropology*

R. Duncan Luce, Ph.D. Massachusetts Institute of Technology, *Professor of Social Science*

Craig MacAndrew, Ph.D. University of Chicago, *Associate Professor of Psychology*

Frederick L. McGuire, Ph.D. New York University, *Associate Professor of Medical Psychology and Psychiatry & Human Behavior*

Duane Metzger, Ph.D. University of Chicago, *Professor of Anthropology and Social Science*

Louis Narens, Ph.D. University of California, Los Angeles, *Assistant Professor of Social Science*

Robert Newcomb, Ph.D. University of California, Santa Barbara, *Lecturer in Social Science*

E. Mansell Pattison, M.D. University of Oregon, *Associate Professor of Psychiatry and Anthropology*

M. Ross Quillian, Ph.D. Carnegie-Mellon University, *Associate Professor of Social Science*

A. Kimball Romney, Ph.D. Harvard University, *Professor of Social Science* (On leave winter and spring quarter)

Harvey Sacks, Ph.D. University of California, Berkeley, *Associate Professor of Anthropology and Sociology*

William R. Schonfeld, Ph.D. Princeton University, *Assistant Professor of Political Science* (On leave)

Caesar D. Sereseres, Ph.D. University of California, Riverside, *Assistant Professor of Political Science*

Volney Stefflre, B.A. Reed College, *Associate Professor In-Residence of Psychology and Anthropology*

David Sudnow, Ph.D. University of California, Berkeley, *Associate Professor of Sociology*

Rein Taagepera, Ph.D. University of Delaware, *Assistant Professor of Political Science*

John Wallace, Ph.D. Northwestern University, *Associate Professor of Psychology and Administration*

W.C. Watt, Ph.D. University of Pennsylvania, *Associate Professor of Social Sciences*

Jonathan Weiner, Ph.D. Harvard University, *Assistant Professor of History and Sociology*
Christian Werner, Ph.D. The Free University of Berlin, *Professor of Geography*
Kenneth Wexler, Ph.D. Stanford University, *Assistant Professor of Psychology*
Joseph White, Ph.D. Michigan State University, *Professor of Psychology and Comparative Culture*
Eleanor Wynne, M.A. University of Washington and M.A. University of Oklahoma, *Lecturer in Social Science and Director of Laboratory Preschool*
John I. Yellott, Jr., Ph.D. Stanford University, *Associate Professor of Psychology*

COURSES IN SOCIAL SCIENCES

Courses in the School do not always resemble conventional university courses either in content or in format. Students at any level are encouraged to suggest areas of individual study and may (with faculty approval) pursue any intellectually challenging area within the social sciences. Such courses may include special seminars, study projects, individual papers, or any other useful educational activity. The faculty encourages students to present evidence that they have done interesting and original work and to receive official credit for that work by enrolling in an individual study course. Such courses are numbered 198 and 199 (undergraduate) and 299 (graduate).

Students from other schools are encouraged to take courses and talk with faculty within the School of Social Sciences. In addition to the introductory courses, many of the upper-division courses are open to students without previous work in social science.

All courses in the School are listed under Social Science. Since many of the courses touch on several areas of social science, a list of major areas of concentration is included in the description of a course. The classification terms used for this purpose are: Anthropology, cognitive linguistics, economics, geography, political science, psychology, social science, and sociology. In addition, most upper-division courses are arranged in modules in order to provide continuity over individual courses, to facilitate long-range planning by students, and to encourage the pursuit of interdisciplinary programs of study. Students are encouraged to take advantage of the module concept to acquire experience in several integrated sets of courses. *It is not necessary, however, for students to take all courses listed in a module; module courses may be taken individually.*

The specific courses offered in module form may vary from year to year, but the structure of the curriculum will remain stable. Ordinarily, a student can expect to find at least one module offered in each broad area each year. By observing the content area of courses and by making effective use of module sequences, a student can assemble an individual program of study in a particular discipline, or in an interdisciplinary area.

To supplement the basic course sequences and to provide both graduate and undergraduate students with the experience of pursuing a subject in depth, the School offers a number of "special topics" courses. The specific topics to be covered in any quarter are announced at the time of pre-registration.

Listed below are course descriptions of some of the proposed courses to be offered during 1973-1974. A final, complete listing of the courses offered will be available prior to the beginning of each quarter in Room 627, Social Science Tower. In addition, this office will have on hand supplementary material on the modules which are planned for the current academic year. Students who are interested in obtaining this material may receive copies by visiting, or writing to, the School of Social Sciences.

LOWER-DIVISION COURSES IN SOCIAL SCIENCES

See page 5 for explanatory notes on course listings.

1 Introduction to Analysis (1) W
Lecture, two hours; discussion, one hour; seminar, two hours. Basic introduction to the art of using analytical models: how to create, test, use, and love them. Primary emphasis on developing skill and creativity in using concepts to predict, understand, and influence human behavior.

2 Introduction to Anthropology (1-1) F, W
Lecture, three hours. Basic introduction to anthropology.

3 *Introduction to Cognitive Linguistics* (1) F
Lecture, two hours; discussion, one hour. Foundation course, a basic introduction. Particular emphasis on the notion that language is a remarkable achievement of the human mind. Current insights into the nature of language; how language is to be described, and why it makes a difference how one describes it; language and thinking; related topics.

4 Introduction to Economics (1-1) F, W
Lecture, three hours. Basic introduction to economics.

6 Introduction to Political Science (1) F
Lecture, one hour; discussion, two hours. Basic introduction to politics, society, and social issues.

7 Introduction to Psychology (1) F
Lecture, three hours; quiz, one hour; laboratory, one hour. Weekly topics include: human development, memory and problem solving, learning theory, perception, biological mechanisms, emotion and motivation, personality theory, social psychology, and behavior disorders. Students expected to volunteer for participation in several ongoing laboratory experiments.

8 Introduction to Sociology (1) W
Lecture, three hours. Introduction to sociology and social psychology. Not a text-book-oriented course.

50A-B-C . . . Courses Introductory to Special Areas

50A Acquisition of Language (1) W
Lecture, two hours; discussion, one hour. Examination of recent work concerning the linguistic development of the child. (Emphasis: Cognitive linguistics, psychology, sociology, anthropology)

50B Introduction to Comparing Political Systems (1) S
Lecture, two hours; discussion, one hour. Presents various analytic methods used to compare political systems. Emphasis on examination of theories and research with national political systems as units of analysis; does *not* focus on a specific set of three to five countries. Explores the central concern of political science: understanding how it is possible to compare political units and make meaningful statements about them. (Emphasis: Political science)

50C Introduction to Quantitative Political Science (1) F
Lecture, three hours; discussion, one hour. Quantitative discussion of how states

grow, decay, fight, trade, and cluster together, and how people group themselves, fight, get along, and reach agreements. Prerequisite: High school mathematics. (Emphasis: Political science, geography)

50D Freshman Seminar in Experimental Psychology (1) S
Seminar, four hours. Analysis of the problems involved in doing experiments and drawing conclusions. Roundtable discussions of issues raised in the textbook and in critical articles. Prerequisite: Permission. (Emphasis: Psychology)

80A-B-C- . . . Lower-Division Special Topics

80A-B-C Ethnography I, II, III (1-1-1) F, W, S
Introductory topics in ethnography. (Emphasis: Anthropology)

80D American Society and Politics (1) W
Lecture, two hours; discussion, one hour. Introductory course. Provides a public policy approach to the study of the American political process, explores the impact of such factors as centralization, bureaucratization, technology. Quarterly deals with specific public policy issues such as minority politics, etc. (Emphasis: Political science, social science, sociology, economics)

80E Latin American Comparative Politics (1) F
Lecture and discussion, three hours. Processes of institutional changes, development, violence, and military politics. Specific attention will be given such countries as Mexico, Guatemala, Cuba, Peru, Brazil, Colombia, and Chile. (Emphasis: Political science)

80F United States Foreign Policy (1) F
Lecture and discussion, three hours. Stresses the changing international perspectives, policy instruments, and processes of decision making in the five U.S. presidential administrations since 1945. (Emphasis: Political science)

80G The Study of Non-Verbal Interaction (1) S
Lecture, three hours. Topics in the study of non-verbal interaction in everyday behavior. (Emphasis: Sociology)

80H Symbolism in Social Processes (1) S
Lecture, three hours. Focuses on how social reality is constructed, maintained, and changed through symbolic interaction. Central topics include sociology of knowledge and symbolism, the dramaturgical aspect of social behavior, the mechanics defining the social situation, and problems of multiple meaning in social communication. (Emphasis: Social science, sociology, psychology)

80I Science and Ethics (1) S
Lecture, one hour; seminar, two hours. Discussion of ethical problems which arise from man's social and technological development, with emphasis on specific problems, such as population control, organ transplantation, genetic engineering, biological and chemical warfare, nuclear testing, etc. Establishes for each topic the psychological and sociological determinants of present values. (Emphasis: Social science)

Quantitative Social Science – Lower Division

90 Inexact Quantitative Methods (1) W
Lecture, two hours; laboratory, two hours. Focuses on how to make the most out of imperfect data and/or a limited knowledge of mathematics. Simplifying approximate calculations, estimates of magnitudes, use of graph paper and slide rule, and detection of logical-quantitative errors are applied to problems from real life and political science literature. (Emphasis: Social science, political science)

96 Structures (1) W
Introduction to structural models of human thought, language, and social behavior. Mathematics used in these models will be taught, and will include abstract algebra, graph theory, and formal languages. Prerequisites: Mathematics 5A-B-C or Mathematics 2A-B-C. (Emphasis: Social science)

UPPER-DIVISION COURSES IN SOCIAL SCIENCES

Quantitative Social Science

Courses and modules emphasizing quantitative social science are assigned numbers from 100-109. Courses with related content are grouped together in modules under the same course number so that students may more easily plan a program of study. Usually, courses in a given module may be taken independently, in any order, regardless of the assigned suffix.

100A A Probabilistic World (1) S
Seminar, three hours. Students will learn through helping prepare and test materials for teaching basic probability. A basic course for those who have some positive experience with math or computers, and who like to understand things thoroughly. Not designed for those thoroughly acquainted with probability unless they are good programmers or have strong interest in making formal ideas accessible to others. Prerequisite: Not open to students currently taking Mathematics 5C. (Emphasis: Social science)

100B-C-D Social Science Statistics (1-1-1) F, W, S
Lecture, four hours; laboratory, two hours. Descriptive aspects of some basic statistics. Computer exercises. (Emphasis: Social science)

101A-B-C- . . . Analysis of Data

101A-B Data Analysis I, II (1-1) W, S
Lecture, three hours. Practical applications-oriented course on multiple regression. How to discover and explore general socio-economic models in your data. Prerequisite: Simple probability and statistics. (Emphasis: Social science)

101C Understanding Social Facts (1) W
Discussion, two hours; laboratory, two hours. Focus on perspectives toward the question of what constitutes sociological knowledge, and processes through which competent investigators have built sociological arguments from data. Examination of several types of research techniques. (Emphasis: Social science, sociology, anthropology, psychology, economics)

101D-E Econometrics I, II (1-1) W, S
Lecture, three hours. Specification of mathematical models in social science. Single equation models and linear regression. Prerequisite: Mathematics 6A, Mathematics 3A, or permission of instructor. (Emphasis: Economics)

106A-B-C- . . . Mathematical Models

106A Mathematical Sociology (1) W
Lecture, three hours. Topics in formal and quantitative description of social processes, and use of mathematical language to state results of standard forms of social research, particularly sample surveys. J.S. Coleman's use of continuous-time stochastic processes to model relationships among social attributes applied to a variety of data. Students develop and present simple model schemes with broad social science application. Prerequisite: Experience with calculus and probability theory. (Emphasis: Sociology)

106B Mathematical Models in Psychology I (1) W
Lecture, three hours. Concentration on probabilistic models for choice behavior, temporal processes (reaction time, etc.), and perceptual phenomena. Prerequisite: Social Science 7, and one course in statistics or probability theory. (Emphasis: Psychology)

106C Mathematical Models in Psychology II (1) S
Introduction to topics in measurement and scaling as applied to psychology, choice behavior, psychophysics, and applications of information theory. Prerequisite: Mathematics 5A-B-C, or Mathematics 2A-B-C, or permission of instructor. (Emphasis: Psychology)

106D Models of the Brain (1)
Lecture, three hours. Introduction to selected topics in cybernetics, information theory, logic, nerve nets, pattern recognition, and learning machines. Prerequisite: Information and Computer Science 1. (Emphasis: Psychology) Not offered in 1973-74.

Economic and Geographical Analysis

Course modules emphasizing economic and geographical analysis are assigned numbers from 110-119. Courses with related content are grouped together in modules under the same course number so that students may easily plan a program of study. Usually, courses in a given module may be taken independently, in any order, regardless of the assigned suffix.

111A-B-C- . . . Economic Theory

111A-B Microeconomics I, II (1-1) F, S
Lecture, three hours. Fundamentals of price theory; determinants of supply and demand; operation of competitive and monopolistic markets; resource allocations; basic concepts of economic efficiency and of costs and benefits; imperfections of the market system. Prerequisite: Social Science 4 (may be taken concurrently). (Emphasis: Economics)

111C Macroeconomics (1) W
Lecture, three hours. Analysis of the factors which influence unemployment, inflation, recessions, and depressions, and the public policy measures available for dealing with these problems. Prerequisite: Social Science 4. (Emphasis: Economics)

111D Flow of Funds Analysis (1) S
Lecture, one and one-half hours; seminar, one and one-half hours. Analytical description of flow of funds accounts in U.S. economy. Prerequisites: Social Science 111A, Social Science 111C. (Emphasis: Economics)

111E Individual Decision Making (1) F
Lecture, three hours. Consideration of the problems associated with decision making under uncertainty. Discussion of the foundations of modern utility theory, random variables, probability distribution, opportunity loss, the value of perfect information, and Bayes' theorem. Prerequisite: Mathematics 5A. (Emphasis: Economics, psychology)

112A-B-C- . . . Labor Economics Theory

112A Urban Location and Economic Performance (1) F
Lecture, three hours. Economic effects of residential location within metropolitan areas for different ethnic groups. Prerequisite: Social Science 4. (Emphasis: Economics, sociology, geography)

112B The Economics of Discrimination (1) S
Lecture, three hours. Examination of differential wage rates between races. Prerequisite: Social Science 4. (Emphasis: Economics)

112C Manpower Policy (1) S
Lecture, three hours. Examination and evaluation of U.S. manpower policy during the 1960's with implications for the future. Prerequisite: Social Science 111A. (Emphasis: Economics)

113A-B-C- . . . Economic Institutions and Work Organizations

113A Migration, Modernization, and Economic Development (1) S
Lecture, three hours. Examination of the human causes and consequences of economic development to find an effective theory of economic and social change. Migration-modernization process examined from the viewpoint of economics (formation of human capital), and anthropology/sociology (cultural contact and change). Prerequisite: Strong social science background. (Emphasis: Economics, anthropology, sociology, social science)

113B Work in Modern Society (1)
Discussion, two hours; laboratory, one hour. Work as a productive activity in society; the person as a member of work organizations; work and personal life history. (Emphasis: Sociology, social science)

113C Introduction to Organizational Behavior (1) S
Discussion, two hours; laboratory, one hour. Analysis of the major analytical problems in understanding organizational behavior. Several problems selected for intensive analysis. Some work devoted to experimental design of a work situation from the standpoint of human behavior in it, analyzing the design for its human consequences. (Emphasis: Sociology, social science, political science)

114A-B-C- . . . Geographical Analysis

114A The Evolution of Landforms (1) F
Lecture, three hours. Introduction to geomorphology; major forces which shape the relief of the earth's surface and the forms which result from their activity. General principles demonstrated using examples from western United States with special emphasis on California. (Emphasis: Geography)

114B-C Natural and Man-Made Networks I, II (1-1) W, S
Lecture and seminar, two hours. Emphasis on mathematical structure of network phenomena. Models of network development and operation constructed and tested against empirical examples – highways, subways, pipelines, rivers, etc. Prerequisite: Mathematics 5 and Mathematics 6. (Emphasis: Geography)

114D Transportation Theory (1) F
Lecture, two hours. Advanced topics in transportation systems analysis and planning; land-use and traffic generation; traffic flow and network theory; transportation impact; transportation policy. Emphasis on theoretical approaches and mathematical models. Prerequisites: Mathematics 5 and Mathematics 6. (Emphasis: Geography, social science)

Society, Politics, and Social Issues

Course modules emphasizing society, politics, and social issues are assigned numbers from 120-129. Courses with related content are grouped together in modules under the same course number so that students may easily plan a program of study. Usually, courses in a given module may be taken independently, in any order, regardless of the assigned suffix.

121A-B-C- . . . Western World Society and Politics

121A The American Community in Crisis (1) F
Lecture, three hours; optional discussion, one hour. General analysis of politics of the urban community. Main themes: analysis of various conceptual frameworks for the study of local political systems; examination of the attempt of the local political system to govern; nature of local-federal government relationship. (Emphasis: Political science)

121B Politics in Britain (1) F
Lecture, three hours. Examination of the politics and processes of government in Britain; operation of parliamentary government; responses of the political system to issues and problems in contemporary Britain. Issues include: racism and immigration policy; economic stagnation and entry into the Common Market; Northern Ireland; linkages between social class and politics. (Emphasis: Political science)

121C Presidents, Bureaucrats, and U.S. Foreign Policy (1) S
Lecture and discussion, three hours. Presents the bureaucratic aspect of American foreign policy, including institutional relationships, bureaucratic processes, and personalities that affect the decision making process. Prerequisite: Social Science 80D, or consent of instructor. (Emphasis: Political science)

122A-B-C- . . . Eastern European Society and Politics

122A Soviet Society and Politics I (1) W
Lecture, three hours; seminar, one hour. Overview of the Soviet socio-political structure, based on Western texts and on the current Soviet press. (Emphasis: Political science)

122B Soviet Society and Politics II (1) S
Lecture, two hours; discussion, two hours. Homework problems of a quantitative nature. Prerequisite: Social Science 50C. (Emphasis: Political science)

122C Czechoslovak Democratic Culture (1) S
Lecture and discussion, three hours. Three times in this century the Czechs and Slovaks have synthesized from their background as "center of Europe" a political economy and culture which is of value for comparison with other advanced industrial societies. Plays, films, political programs, translated newspaper articles, and economic reform plans studied. (Emphasis: Social science, political science, economics, sociology)

123A-B-C- . . . Third World Society and Politics

123A Problems of Mini-nations (1) F
Lecture, one hour; seminar, three hours. Problems and opportunities of small nations from economic, ecological, and humanistic viewpoints (throwing new light on the problems of large nations). Independence, federation, and fusion alternatives examined. Students select one nation and prepare a talk and a paper. (Emphasis: Political science, economics, geography)

123B U.S.-Latin American Foreign Relations (1) S
Lecture and discussion, three hours. Changing pattern of hemispheric relations in the political, military, and economic spheres, including political alliances, trade patterns, the transfer of technology and capital, economic and military assistance, radical critiques of imperialism and underdevelopment, and the expanding role of non-hemispheric countries in Latin America. Prerequisite: Social Science 80C and 80D or consent of instructor. (Emphasis: Political science)

123C-D International Dominance and Dependence I, II (1-1) F, W
Lecture and discussion, three hours. Observations on why and how some nations expand and dominate other states, and why and how some states become vulnerable to such domination, in order to build a scientific theory. (Emphasis: Political science, economics, psychology, sociology, social science)

124A-B-C- . . . Participation and Mass Communication

124A The Future of the Mass Media (1) F
Lecture, three hours. Overview of literature on the mass media and comparisons of social and political beliefs such media foster to the beliefs of physical scientists. Role of personal influence in public and in scientific opinion; way in which beliefs in each system are created, modified, supported, and in some cases, revolutionized. Criticisms, defenses, and proposed changes in the mass media, especially changes that would increase citizen participation. (Emphasis: Political science, sociology, social science)

124B Participatory Forms of Social Organization (1) S
Discussion, three hours. The meaning and effects of "participatory democracy." Science as an example of participatory enterprise. Other experiments in the U.S., China, and Yugoslavia. Prerequisite: Social Science 124A. (Emphasis: Political science, sociology, social science)

124C Democratized Institutions and Bureaucracy (1) W
Lecture and discussion, three hours. Examination of bureaucracy as the common form of administration in modern organizations; examination of various forms of already-undertaken employee participation in management, worker co-ownership, cooperatives, etc. Real cases in the United States, Europe, and other countries. (Emphasis: Social science, political science, sociology, economics)

Cultural and Cognitive Anthropology

Course modules emphasizing cultural or cognitive anthropology are assigned numbers from 130-139. Courses with related content are grouped together in modules under the same course number so that students may easily plan a program of study. Usually, courses in a given module may be taken independently, in any order, regardless of the assigned suffix.

131A-B-C- . . . Social Organization

131A Kinship and Social Organization (1) F
Lecture, three hours. Organization of social life primarily in pre-industrial societies. Theories of kinship, marriage regulations, and social roles. Comparisons of psychological, sociological, and economic explanations of social organization. (Emphasis: Anthropology, psychology, sociology, economics)

131B Anthropological Theories about Ritual (1) W
Lecture, three hours. History of the development (and failure of development) of anthropological thought concerning the social nature of ritual behavior. Closest thing to a course about the "great anthropologists." Prerequisite: Social Science 2. (Emphasis: Anthropology)

131C Comparative Models of Social Organization (1) S
Lecture, three hours. While focusing on a new model for explaining variation in social organizational features of some small face-to-face societies, we cover previous theories concerning interrelations among domestic group organization, kinship terminology, ceremonial organization, subsistence patterns, etc. Prerequisite: Social Science 2. (Emphasis: Anthropology)

132A-B-C- . . . Cultures

132A The Ixil Maya (1-1) W, S
Discussion, one hour; laboratory, four hours. Religion and life of the modern day Ixil Maya of highland Guatemala with archaeological and historical background included. A case study introduction to ethnography. Primarily self-instructional, using slides, tapes, films, and a programmed text. (Emphasis: Anthropology)

132B Analysis in Social Anthropology (Polynesia) (1) F
Lecture, three hours. From similarities among Polynesian myth, language, and biological characteristics, the course seeks clues to a reconstruction of the origin of Polynesian cultures. (Emphasis: Anthropology)

132C Cultural Ascent and American Society (1) F
Lecture, two hours. Current trends in American culture, specifically the ethos and values of the Industrial State as seen by Galbraith. Introduction to a theory of culture which explains the mechanisms by which the Industrial State develops and the counter mechanisms which may accompany the attempts to establish an alternative culture. (Emphasis: Anthropology, social science)

Cognitive Linguistics

Course modules emphasizing cognitive linguistics are assigned numbers from 140-149. Courses with related content are grouped together in modules under the same course number so that students may easily plan a program of study. Usually, courses in a given module may be taken independently, in any order, regardless of the assigned suffix.

141A-B-C- . . . Linguistic Theory

141A Introduction to Syntax (1) F
Lecture, three hours. Development of notions of linguistic intuition, well-formedness, constituent structure, transformation, derivation, argument and counter-example through discussion of different natural language phenomena. Emphasis on English syntax and what characterizes a linguistically significant generalization. Prerequisite: Social Science 3 or Linguistics 50. (Emphasis: Cognitive linguistics)

141B Formal Models of Language (1) S
Lecture, two hours; discussion, one hour. Comparison of simple models for language structure with each other and with structures of English. The task of the speaker of a sentence and of the listener, as well as that of the learner of a language, examined with reference to particular models. Prerequisites: One year of mathematics; a course in linguistics, such as The Study of Language, Introduction to Cognitive Linguistics, Acquisition of Language. (Emphasis: Cognitive linguistics)

141C Semantics (1)
Not offered in 1973-74.

141D Advanced Syntax (1)
Not offered in 1973-74.

142A-B-C- . . . Psycholinguistics

142A Introduction to Psycholinguistics (1) F
Lecture, three hours. Study of a particular topic in the psychology of language with particular emphasis on syntax and semantics. Prerequisite: Social Science 50A or a course in linguistics, or permission of instructor. (Emphasis: Cognitive linguistics)

142B Language and Thinking (1) F
Lecture, three hours. Human and non-human language capacities examined from the viewpoints of several modern theories; conclusions drawn about what is in our mind that allows us to use language as we do. How language and thought are intertwined; the so-called "Whorf" hypothesis and similar notions. Prerequisite: Prior experience in linguistics, or instructor's permission. (Emphasis: Cognitive linguistics)

142C Language and Thinking II (1) W
Lecture, three hours. Language as a vehicle of thought. Current views on how a language is learned, held in the mind, and used for speaking and understanding. "Competence" vs. "performance"; criteria of economy. Combines and relates work from psycholinguistics and cognitive anthropology. Prerequisite: Social Science 142B or permission of instructor. (Emphasis: Cognitive linguistics) Not offered in 1973-74.

142D Project in Child Language (1) S
Seminar, three hours. Begins with an intensive review of previous work on child language in which problems and methodology are discussed; projects specified. Remainder devoted to the projects and to discussing the problems and results which arise from doing them. Prerequisite: Social Science 50A, or permission of the instructor. (Emphasis: Cognitive linguistics, psychology, anthropology, sociology)

143A-B-C- . . . Discourse

143A Preliterate Literature (1) W
Lecture, three hours. Literatures of people mainly without writing systems and technologically "primitive." Song, magical spells, chanted boasts and epics, erotic poetry, and other preliterate literature considered from peoples ranging from (indigenous) North and South America through Africa and Asia to Oceania and Australia. Topics include the social and psychological aspects of preliterate literature and stress the esthetic dimension. (Emphasis: Cognitive linguistics, psychology, sociology)

143B Symposium on Representations of Human Discourse (1) F
Symposium, three hours. Taught by three instructors discussing, analyzing, debating, and occasionally reaching agreement. Human discourse and its representations in literature, scientific writings, drama, movies, etc. Prerequisite: Permission of instructors. (Emphasis: Social science)

143C Narrative Processes (1) W
Seminar, two hours. Poetic, dramatic, and eidochronic (plot structure) components of traditional folk tales, detective stories, westerns, and children's T.V. cartoons. Emphasis on learning analytical techniques. (Emphasis: Anthropology)

Individual and Small Group Behavior

Course modules emphasizing individual or small group behavior are assigned numbers from 150-159. Courses with related content are grouped together

in modules under the same course number so that students may easily plan a program of study. Usually, courses in a given module may be taken independently, in any order, regardless of the assigned suffix.

151A-B-C- . . . Experimental Psychology

151A-B-C Experimental Psychology (1-1-1) F, W, S
151A Experimental Psychology I. Lecture, three hours, laboratory, one hour. Emphasis on design of experiments and the analysis of results obtained. Advantages and disadvantages of within subjects, between subjects and mixed designs, control of experimental error, and related topics. Experiments in laboratory sections evaluated and discussed. **151B Experimental Psychology II.** Lecture, two hours; laboratory, three hours. Laboratory work and class experiments emphasized. Related experiments discussed, as well as the general content of each area in which a class experiment is conducted. Student proposals for independent research prepared and evaluated. **151C Experimental Psychology III.** Laboratory, three hours; seminar, two hours. Independent research projects discussed in a seminar format. Students encouraged to evaluate each other's research plans. Each student will complete a project in experimental psychology, analyze the data, and prepare a report of the findings. Attention devoted to technical and ethical issues in psychological research. Prerequisites: Social Science 7, and one college level mathematics course; successful completion of 151A-B.

151D Visual Experience (1-1) F, W
Lecture, three hours. Focus on facts about vision that can be appreciated directly by simply looking at things. Emphasis on demonstrations and miniature experiments. Potential topics: visual acuity, color vision, memory and after images, visual reaction time, depth perception, adaptation to distortion of visual output. Prerequisite: Senior standing preferred. (Emphasis: Psychology)

151E Learning Theory (1) F
Lecture, three hours. Investigation of the learning and memory processes of humans and animals. Basic experimental approaches to learning, empirical results, and theoretical interpretations of the evidence. Prerequisite: Social Science 7. (Emphasis: Psychology)

151F Visual Information Processing (1) S
Seminar, three hours. Topics in current vision research, e.g., short term visual storage, eye movements, temporal image development, adaptation, perceptual anomalies. Prerequisites: Mathematics 5A-B-C, or Mathematics 2A-B-C; Social Science 151D, or Social Science 151A-B-C, or permission of instructor. (Emphasis: Psychology)

151G Hearing and Noise Pollution (1)
Lecture, three hours. Sound and noise measurement, the auditory system, simple and complex auditory psychophysics, noise pollution. Prerequisite: Calculus. (Emphasis: Psychology) Not offered in 1973-74.

152A-B-C- . . . Children

152A-B-C Creative Learning in Children (1-1-1) F, W, S
Lecture, two hours; laboratory, six hours. Students assist teaching at and developing materials for the Farm School. The Farm School is ungraded and ages range from five to twelve. Students in any major are eligible. Students should know something like mathematics, biological science, a foreign language, improvisational dance, etc., and care about it. (Emphasis: Psychology, social science)

152D-E-F Creative Learning in Small Children (1-1-1) F, W, S
Lecture, two hours; laboratory, six hours. Students assist in teaching at and developing materials for the UCI Child Care Center; ages range from two to five (Emphasis: Psychology, social science)

152G Child Development I (1-1-1) F, W, S
Lecture, one hour; laboratory, six hours. Growth and development of children ages two to seven. Focuses on observing, recording, and understanding the ordinary be-

havior of children in group situations and the theory of cultural acquisition. (Emphasis: Psychology)

152H Child Development II (1-1-1) F, W, S
Lecture, one hour; laboratory, six hours. Advanced study of the growth and development of children. Prerequisite: Social Science 152G. (Emphasis: Psychology)

152I Child Development III S
Infant studies, research, discussion, individual projects in child development. Prerequisite: Social Science 152G, or permission of instructor. (Emphasis: Psychology)

153A-B-C- . . . Rules and Decision Strategies

153A The Concept of Rules (1) W
Lecture, one and one-half hours; discussion, one and one-half hours. Readings and discussions of ways of formulating rules for understanding human activities. Because language is so rule-governed, it serves as a paradigm. Prerequisite: Upper-division standing. (Emphasis: Cognitive linguistics)

153B Games (1) W
Lecture, two hours; discussion, one hour. Games as analogies of social, economic, and political situations. The interaction of contingency plans. Games (situations) with no winner and/or loser. Technical definition and discussion of conflict, threat, stability. Paradoxes involved in defining "rational decision." Prerequisite: One year of mathematics. (Emphasis: Social sciences)

153C The Psychology of Chess (1) S
Lecture, three hours. Reviews recent psychological literature on chess and gives chess demonstrations of the points made. Included are the psychoanalysis of chess players, artificial intelligence, chess programs, the relationship of eye movements to chess thinking, perception and memory of the chess master, blindfold chess playing, and the relationship of chess thinking to more general problem solving. Students should know chess. Prerequisite: Permission of instructor. (Emphasis: Psychology)

154A-B-C- . . . Personality Theory

154A-B-C Freud, the Neo-Freudians and the Post-Freudians (1-1-1) F, W, S
Lecture, three hours. Theories of Freud and certain of the neo-Freudians and post-Freudians will be introduced and subjected to critical analysis. Special emphasis will be placed on the relation between facts and theory. (Emphasis: Psychology)

154D Theories of Personality (1) F
Lecture, three hours. Non-Freudian theories of personality: existentialist, behaviorist and communication. (Emphasis: Psychology, social science)

155A-B-C- . . . Social and Personal Adjustment

155A Theories of Deviance (1) F
Seminar, three hours. Perspectives on deviance and criminality as behavior, institution, community and myth. The suitability of contemporary theories of deviant behavior. (Emphasis: Sociology)

155B Abnormal Psychology (1-1) W, S
Lecture, three hours. Introduction to psychopathology and behavioral deviations, and the concepts and theories regarding these conditions. Prerequisite: Social Science 7. (Emphasis: Psychology)

Social Interaction

Course modules emphasizing social interaction are assigned numbers between 160-169. Courses with related content are grouped together in modules under the same course number in order to aid students in planning their programs of study. Normally, courses in a given module may be taken independently, in any order, regardless of the assigned suffix.

161A-B-C- . . . Communication and Social Presentation

161A Personality Impression Formation (1) F
Lecture, one and one-half hours; discussion, one and one-half hours. Exploration into the body of knowledge concerning how we form, maintain, and change judgments of people. Prerequisite: Upper-division standing. (Emphasis: Psychology)

161B Sociological and Psychological Aspects of Communication (1) F
Lecture, three hours. An analysis of human communication, its pathologies, and its regularities. (Emphasis: Social science, sociology, psychology)

161C Theories of Social Presentation, Perception, and Communication (1) F
Lecture, three hours. Topics include impression formation, interpersonal perception, the attribution of cause and responsibility, theories of self presentation, and problems of role conformity. Emphasis on examining these forms of presentation and perception as types of social communication. Various perspectives on communication introduced to analyze maladaptive modes of perception and presentation. Topic-related dilemmas and problems analyzed by students. (Emphasis: Psychology, sociology)

162A-B-C- . . . Naturalistic Studies of Everyday Life

162A Analysis of Conversation (1-1-1) F, W, S
Lecture, three hours. Research results of, and techniques for, the study of interactional details in natural conversation. Focus on methods used for organizing the sequencing of speakers of conversations, e.g., question/answer sequences, joking. (Emphasis: Social science)

162B Sociology of Music (1) W
Lecture, two hours. Analysis of music in terms of the concepts of linguistics and sociological theory of social interaction. No specific knowledge of music required. (Emphasis: Sociology)

162C The Analysis of Films and Photos as Social Objects (1) F
Lecture, three hours. Exploration, through varieties of demonstrations and projects, of problems of depicting social environments, especially features of "timing," "sequence," "pacing," "objectivity," and "interpretation" in socially structured witnessing of the environment. Students involved in making and analyzing photos, video tapes, and film. (Emphasis: Sociology)

Special Courses – Upper-Division

180A-B-C- . . . Upper-Division Special Topics

180A General Systems (1) S
Lecture, three hours. Introduction to the basic concepts in systems theory, cybernetics, and other unifying notions of life. Explorations into physical, biological, and social systems: their patterns, structure, flow of information, self regulation, movements toward or away from entropy. Prerequisites: Introductory courses in social science, physics and chemistry, or biology. (Emphasis: Social science, sociology)

180B Political Religiosity (1)
Lecture, three hours. Interdisciplinary comparison of religion and politics in terms of structures and functions. Provides the framework for detailed analysis of political symbols, myth, rituals, and ideologies of participation. Analyses integrated into a psychological model of political persuasion, perception, and legitimation. (Emphasis: Political science, psychology) Not offered 1973-74.

180C Explaining Politics (1-1) W, S
Lecture, three hours. Rise of the nation state used to explore the possibility of studying politics as an ecological or biobehavioral phenomenon. (Emphasis: Political science, social science)

180D The Stock Market as a Behavior Arena (1) F
Lecture, three hours. Introduction to such topics as the mechanics of stock market participation, the kinds of publicly available data that relate to such participation,

the uses and misuses that have been made of this data, and the essentials of the perennial controversy between fundamental analysis and technical analysis. (Emphasis: Economics, psychology)

180E An Introduction to Psychotronics (1) W
Lecture, three hours. A critical examination of the evidence regarding the purported phenomena of ESP, psychokinesis, eyeless sight, orgone energy, etc., and possible relevance of contemporary work in such areas as Kirlian photography and cycle analysis. (Emphasis: Social science, psychology)

180F The Recovery of Embodied Experience (1) S
Lecture, three hours. What comes between the stimulus and the response, both psychophysiologically and experientially; how and why psychology has neglected this question and how recent research is beginning to provide some answers. (Emphasis: Psychology, social science)

180G Psychology of Neurosis (1) W
Lecture, four hours. Perspectives on emotional disorders; what they are, how they develop, and what they look like in everyday life. A variety of therapeutic orientations discussed. Prerequisite: Social Science 7. (Emphasis: Psychology)

180H Cognitive Anthropology (1) S
Lecture, three hours. Focuses on individual and cultural differences and similarities in the categorization and organization of semantic structures. Relation of variations in these conceptual structures to other systems of behavior. (Emphasis: Anthropology)

180I Iconics (1) F
Lecture, three hours. Introduction of the close study of two-dimensional or graphic language-like systems. Generative grammars for such "languages." Chinese characters, Nevada cattle brands, letters and numerals, Mayan design motifs, pottery patterns. Changes in time, cognitive (psychoiconic) aspects. (Emphasis: Cognitive linguistics)

180J Sociolinguistics (1) S
Lecture, three hours. Sociolinguistic varieties of language examined from different points of view: geographical, temporal, and cultural. Dimensions such as age, sex, economics, occupation, and other systematic language events. Prerequisite: Introduction to Linguistics. (Emphasis: Cognitive linguistics, sociology)

180K Paralanguage and Kinesics (1) S
Lecture, three hours. Channels of nonverbal communication which correlate with speech. Extra-speech sounds and modifications of vocalizations; muscular and skeletal movement which "expresses" something. Coordination of these communicative components with language structures. (Emphasis: Social science)

180L Man's Responses to the Man-Made Environment (1) W
Lecture, three hours. Examination of aspects of the man-made environment (e.g., buildings, streets, cities as wholes, parks, reshaped landscapes, "street furniture," vehicles, signs, etc.), and, for contrast, the unaltered environment, with the aim of identifying engineered stimuli and of identifying the responses these were meant to evoke. Special topic for 1974 is Costa Mesa. (Emphasis: Cognitive linguistics)

180M The Family (1) F
The family as the basic unit of social organization and link between the individual and his society. View of the family both from the inside (e.g., as the primary area of socialization and intimacy) and from the outside (e.g., as a fundamental political unit). (Emphasis: Sociology)

180N Systematic Analysis of Urban Problems (1) W
Lecture, three hours. Analysis of current urban problems: housing, transportation, and employment. Examination of their historical context, present complexities, and prospects for the future. (Emphasis: Economics)

185 Advanced Seminars

185A-B-C People in Society (1-1-1) F, W, S
Seminar, two hours. Designed for social science senior projects having to do with

people in society; also open to seniors in other schools and programs. A year-long seminar with emphasis on both independent reading, research, and writing, and mutual help and criticism. Course goal of compiling seminar papers in book form. Fulfills the three-course module requirement. Prerequisite: Senior standing, 3.0 grade point average, and permission. (Emphasis: Social science)

185D Seminar on Style in Language (1) W
Seminar, three hours. Selected topics in the study of language such as speech and prose styles, as a function of individual and class differences, speech repertoires, the language of schizophrenia, literature. (Emphasis: Cognitive linguistics)

185E Urban Policy Problems (1) W
Seminar, three hours. Problem-oriented approach to urban political systems. Evaluation of the nature and quality of alternative analyses of a series of policy problems, such as low cost housing, welfare policy, municipal transportation, law enforcement, community control, etc. Readings include "conservative" and "radical" perspectives. Prerequisite: Permission of instructor. (Emphasis: Social science, political science, sociology, economics)

190 Senior Thesis

197 Field Study

198 Group Independent Study

199 Independent Study

GRADUATE COURSES IN SOCIAL SCIENCES

201A-B-C Seminar in the Belief Systems of the Mentally Ill (1-1-1) F, W, S
Seminar, three hours. Methods of extracting belief systems of the mentally ill by psychiatric and anthropological techniques. Field work with hospitalized patients required. Prerequisite: Permission of instructor. (Emphasis: Anthropology, sociology, psychology)

202 Seminar in Ethnomethodology (1) F
Seminar, three hours. (Emphasis: Sociology)

203 Philosophy of Social Science (1) S
Lecture, one hour; seminar, two hours. Writings of Popper, Skinner, Kuhn, and in particular Habermas, interpreted in the light of current research in artificial intelligence, cognition, child development, and social organization. (Emphasis: Social science, political science, sociology)

204A-B Sociology as a Life Science (1-1) W, S
Seminar, three hours. The world of everyday life considered as a sociobiological phenomenon. An interdisciplinary attempt to link the social and the life sciences by finding a language that encompasses both. Findings from psychobiology considered, as well as findings from cybernetics, systems, existential psychiatry, and ethnomethodology. Prerequisite: Graduate standing or permission. (Emphasis: Sociology, social science)

205 T.V. Guide (1) S
Lecture, one hour; laboratory, two hours. Students learn to use portable videotape equipment in social science research, then devise and carry out research projects. Previous projects include: constructing a stereoscopic T.V. system; videotapes that create visual illusions; videotaping of scientific meetings; videotape studies of personal space; videotape studies of information content of commercial T.V. Prerequisite: Permission of instructor. (Emphasis: Social science)

206 Seminar in the Sociology of Art (1) W
Seminar, three hours. Surveys the thinking of anthropologists, sociologists, psychologists, and philosophers on the nature of aesthetic organization, the role of the artist (and musician) in society, and the analysis of art as artifact. Examines ways in which some particular developments in "avant garde" art and music can be analyzed to reveal features important for understanding features of social structure. (Emphasis: Sociology)

230 Theories of Psychotherapy (1) F
Seminar, three hours. Interrelationships between psychotherapeutic theory and technique. Each student concentrates on one therapeutic orientation. Prerequisite: Permission of instructor. (Emphasis: Psychology)

231 Techniques of Psychotherapy (1) W
Seminar, three hours. Psychotherapeutic techniques. Audio and visual tapes used. Prerequisite: Permission of instructor. (Emphasis: Psychology)

232 Research on Psychotherapy (1) S
Seminar, three hours. Surveys process, outcome, and psychophysiological research on psychotherapy. Prerequisite: Permission of instructor. (Emphasis: Psychology)

233 Casework in Psychotherapy (1) S
A practicum class for graduate students who are seeing patients and have access to videotape equipment. Prerequisite: Advanced graduate standing and permission of instructor. (Emphasis: Psychology)

235 Seminar in Laboratory Methods (1) F
Seminar, three hours. Designed for intermediate and advanced graduate students involved in laboratory research. Problems of collecting data in the laboratory, avoiding undesired experimenter effects on subject behavior, presenting complex stimulus materials, recording responses with maximum flexibility, and analyzing results while the experiment is still in progress. Laboratory instrumentation included, particularly on-line computer control of experiments. Prerequisite: Graduate standing or permission of instructor. (Emphasis: Psychology, social science)

236A-B-C Proseminar in the Cognitive Sciences (1-1-1) F, W, S
Seminar, three hours. Year-long intensive introduction to the conceptual foundations and basic research results in the cognitive sciences for first-year graduate students. Prerequisite: Graduate standing or permission of instructor. (Emphasis: Psychology, social science, cognitive linguistics, anthropology)

240A-B Mathematical Models of Cognitive Processes I, II (1) W, S
Lecture, three hours. Mathematical models of various cognitive processes that have been developed mostly since 1960, including learning, memory, perception, psycholinguistics, and problem solving. Models are formulated in different mathematical languages: calculus, algebra, logic, probability, and computer. Difficulties in testing and validating models discussed. Prerequisite: Graduate standing or permission of instructor. (Emphasis: Psychology)

241 Topics in the Mathematical Foundations of Social Science (1) W
Seminar, three hours. Various mathematical topics that are of current social science research interest and are not in the curriculum of the mathematics department. Prerequisite: Consent of instructor. (Emphasis: Social science)

242A-B Graduate Seminar (1-1) F, W
Seminar to help students focus on their dissertation topics and to help the instructors audition their current research interests. Graduate students at all levels and instructors make presentations describing their ongoing work. (Emphasis: Social science, psychology)

243A-B-C Research Seminar in Mathematical Social Science (1-1-1) F, W, S
Seminar, two hours. Weekly reports of research by faculty and students participating in the Graduate Program in Mathematical Social Sciences. Prerequisite: Admission to graduate program in mathematical social sciences, or permission of instructor. (Emphasis: Social science, psychology, economics)

244 Preference, Probability, and Risk (1) F
Lecture, three hours. Various mathematical models that have been proposed by economists, psychologists, and statisticians to describe and/or prescribe choices among certain and uncertain alternatives. Relevant experimental data compared with predictions. Prerequisite: Mathematics 5A-B-C, or Mathematics 2A-B-C, or permission of instructor. (Emphasis: Psychology, economics)

250A-B-C Theories of Behavioral Deviations (1-1-1) F, W, S
Lecture, one hour; laboratory, four hours. Surveys concepts, theories, and approaches regarding behavioral deviations. Field placement at Fairview State Hospital. Prerequisite: Social Science 152G. (Emphasis: Psychology)

252A-B Graduate Research Seminar on Arithmetical, Mathematical, and Logical Concepts in Children I, II (1-1) F, W
Seminar, two hours. Reviews various theoretical positions and experimental data on how children acquire arithmetical, mathematical, and logical concepts. Includes planning and reporting of research investigations, both theoretical and empirical. Emphasis on axiomatizing the structures available at different stages of development. Prerequisite: Permission of instructor, and some mathematical background. (Emphasis: Psychology)

270 Interdisciplinary Field Research (1) W
Students engage in field research. Topics include comparative semantic studies, the cultural context of learning and thinking, cultural organization of space, and economic development. Prerequisite: Graduate standing and willingness to spend time at the field location, or permission. (Emphasis: Social science)

280 Theory Building (1) S
Seminar, three hours. A non-mathematical examination of components of theory and rules for their combination into scientific models; research as 1) source of theory components; and 2) test of predictions made from a model. Prerequisite: Graduate standing or permission of instructor. (Emphasis: Social science, sociology)

281 Visual Perception (1) W
Seminar, three hours. General introduction to visual perception for graduate students. Current research topics emphasized. Prerequisite: Graduate standing or permission of instructor. (Emphasis: Psychology)

282 Seminar in Semantics and Cognitive Structure (1) S
Seminar, three hours. Concentrates on recent research in semantic and cognitive structure. Prerequisite: Some background in linguistics or psycholinguistics. (Emphasis: Cognitive linguistics, psychology)

285 Advanced Analysis of Conversation (1-1-1) F, W, S
Seminar, three hours. Training course for advanced students in interactional analysis of conversation. Prerequisite: Permission of instructor. (Emphasis: Sociology)

286A-B Systems of Belief I, II (1-1) F, W
Seminar, three hours. Approaches to exploring and understanding particular belief systems in unfamiliar cultures. (Emphasis: Anthropology)

288 SAGE (1) W
(SAGE is a user-oriented LISP-based interactive system for the analysis of verbal materials.) Instruction on the use of SAGE in content analysis, syntactic studies, the study of narrative processes and semantic analysis. (Emphasis: Anthropology, cognitive linguistics, psychology, political science, social science)

289 Decision Models in Anthropology (1) S
Seminar, three hours. Applications of decision theory in anthropology. Prerequisite: Graduate standing or permission of instructor.

290 Journals in Psychology (1) S
Seminar, three hours. Getting to know psychological journals, editorial policies, and review boards. Discussion of manuscript preparation and revision. Prerequisite: Graduate standing or permission of instructor. (Emphasis: Psychology, social science)

299 Independent Study

John McAllister, art major

unaffiliated programs

This section deals with various programs which do not fall under any of the regular schools at UCI. Comparative Culture, Information and Computer Science, and Social Ecology are degree programs under the jurisdiction of the Council for Interschool Curricula. The Department of Physical Education and University Studies do not offer degrees.

program in comparative culture

"Culture" may be defined as that complex whole of knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society. "Culture" refers to the distinctive ways of life of a "society," a group of people who have learned to work together. Society is made up of individuals; culture is made of what happens in their consciousness, in their emotions, and in their habits of behavior. The crucial changes taking place in "society" very often first take place in "culture," which lies behind society in providing its motives and methods.

Recently, a rebellion against departmentalized knowledge has been one of the most remarkable developments in American universities. The possibilities of cooperation between disciplines have been tested and developed in many areas. The study of culture has in common with the development of collaborative study in other areas the conviction that interdisciplinary investigation is essential. We who study culture comparatively believe, first, that a particular civilization or culture, with all its diversity, has a certain underlying homogeneity which can serve as a unifying key to the interpretation of diverse phenomena within this particular culture; and, second, that intercultural or cross-cultural study of cultures illuminates both the peculiarities of any culture and also the connections between cultures.

The major in Comparative Culture is elected by students planning careers requiring a knowledge and understanding of peoples and cultures. Apart from affording an opportunity to secure an elementary or secondary teaching credential, in cooperation with the Office of Teacher Education, the major prepares students for community service at all levels – local, state, national, and international. Graduates of the Program can look forward to pursuing any career requiring direct or indirect human interaction. The Program also prepares students for entry into graduate and professional schools whose

requirements consist essentially of a sound background in socio-cultural studies.

The student in Comparative Culture is given an opportunity for consistent interaction with peoples and ideas different from those to which he has been accustomed. Not only do most of the courses reflect an awareness of, and interest in, the ethnic groups comprising the United States and the Third World, but the participants – faculty, staff, and students – include representatives of these groups as well. To study Comparative Culture, therefore, is to experience life as it has evolved among people of different cultures and to participate in a universal community in microcosm. The opportunity for a sustained global perception is further enhanced by the fact that students may qualify (at the end of the sophomore year) for study in foreign universities under the University of California Education Abroad Program, with centers in Africa, Asia, Europe, and Latin America.

Through the Program's student associations, representatives are elected to serve on the Council of Scholars. These student representatives serve, along with elected representatives of the faculty, on the Standing Committees (Executive, Graduate, and Undergraduate) which make regular reports at the bi-weekly meetings of the Council of Scholars. This council is the deliberative and decision-making body for all policy matters affecting curriculum, recruiting, personnel, and resources.

Degrees Offered

Comparative Culture ..... B.A., Ph.D.

All students, regardless of their area of concentration, will graduate with a degree in Comparative Culture.

Honors

Honors at graduation are based on the overall grade point average. The minimum grade point for honors is a 3.5 on work completed. Twelve percent of graduating seniors may receive honors; one percent *summa cum laude,* three percent *magna cum laude,* and eight percent *cum laude.*

UNDERGRADUATE PROGRAM

Requirements for the Bachelor's Degree in Comparative Culture

University Requirements: See page 31.

Program Requirements

The major in Comparative Culture prepares students generally to be intelligent participants in social, political, and cultural life, and specifically for careers in law, education, community organization, mental health, and public affairs. The curriculum promotes these aims by employing interdisciplinary methods from the "soft" social sciences within the framework of humanistic perspectives. To meet his specific educational goals a student may choose from three different program plans (A, B, or C).

All majors (except junior or senior transfer students for whom waivers may be granted) must complete the following lower-division requirements: Comparative Culture 1A-B (Core Course), three sections of Comparative Culture 10 (Introduction to Culture Study), and two years of a foreign language or

equivalent. (Upon advisement, two years of linguistics, statistics, computer science, or mathematics may be taken in lieu of a foreign language.) Upper-division requirements for all majors in Plans A and B include nine upper-division courses and three senior seminars. Plan A requires nine courses in the ethnic/cultural area or areas of interest and three senior seminars. Plan B requires nine courses with an interdisciplinary perspective presently represented in the Program – economics, history, literature, aesthetics, anthropology, etc., and three senior seminars. Plan C involves a contract in which a student designs an individualized curriculum revolving around a particular theme, topic, or problem in cross-cultural and/or interdisciplinary study. Each Plan C must be approved by the Comparative Culture Undergraduate Committee. The specific course requirements for each Plan C will be decided by the Undergraduate Committee in consultation with the student.

Planning a Program of Study

Because Comparative Culture offers three alternative emphases in its undergraduate curriculum, students' program plans will vary considerably. Each student should plan a coherent program of study with his faculty advisor. Students should also consult with the undergraduate academic advisor for quarterly "program checking" and planning. Information regarding professional possibilities and career interests is available through that office.

The Peer Academic Advisor, an upper-division undergraduate in the Program, works closely with the faculty, staff, and especially the Undergraduate Counselor, to assist students in identifying and attaining their academic, vocational, and personal goals. Most importantly, the Peer Academic Advisor is a student who is aware of the problems – academic and personal – of university life.

GRADUATE PROGRAM

The Ph.D. program emphasizes work centering on the cultures of the United States of America, including the dominant and minority cultures and their antecedents in time and space. The program is designed to meet the following central objectives:

To train interdisciplinary intellectuals – teachers and research scholars – who can deal comparatively with the range of cultures found in the United States; to equip graduate students for positions in colleges and universities in interdisciplinary programs, as well as in programs involving English, history, humanities, and the social sciences; to prepare top-level personnel for public and private agencies requiring experts in social-cultural affairs and operations. The Program pursues these objectives by focusing on resources (faculty, courses, colloquia, and special projects) that enable students to emphasize either literature and the arts or history and the social sciences. These basic patterns permit concentration in comparative ethnic-cultural analysis (such as African, Asian, Black, Chicano, and/or Latin American), as well as combinations of academic or professional interest within and across the two main emphases.

Requirements for the Ph.D. Degree in Comparative Culture

Admission. Requirements and standards for admission into the Program are in keeping with those of the University of California as a whole. Students with at least a B.A. degree will be considered for admission on the basis of past academic performance and present academic interests.

Residency. The university residence requirement for the Ph.D. is six quarters, the student being expected to enroll in at least one course during each of these quarters. Students entering with an M.A. degree may receive up to three quarters course credit for previous work. The Graduate Committee of the Program in Comparative Culture will consider requests in writing for a waiver up to nine courses involving previous work of relevance to the Ph.D. requirements.

Required and Elective Courses. "Proseminar in the Study of Comparative Culture," (three quarters). Required of all first year graduate students. The first quarter focuses on "Theory and Methods for Interdisciplinary Study in American Cultures"; the second on "Scope and Methods of Ethnic and Third World Studies." The third quarter is a colloquium in which each student will present a paper before the other members of the proseminar and to which all Comparative Culture faculty are invited. In addition each student may enroll in six elective courses offered within the Program or in some other related department. All elective courses must be approved by the student's academic advisor. During the second year, the student will take two two-quarter research seminars (equivalent of four courses), preferably but not necessarily after completion of the required proseminar. The student may take up to five additional elective courses offered within or outside the Program in Comparative Culture.

Comprehensive Examination. At the end of the first year, each student will be evaluated by a committee of faculty (three members, one of whom may be requested by the student). The committee will recommend whether the student should continue in the Ph.D. program. The recommendation will be based on an evaluation of the student's grades, the instructors' written assessments of classroom performance, a folio of the student's papers (one or two), and interviews where necessary.

Language Requirement. One foreign language and one "alternative skill" shall be satisfied. The language will be decided upon by the student, in consultation with his advisor, and the requirement must be satisfied by the end of the fourth quarter in residence either through a standard ETS examination or by another method approved by the Graduate Committee. The "alternative skill" may be another language, or a sequence of two courses in statistics, linguistics or computer science, and must be satisfied before the qualifying examination can be taken.

Qualifying Examination. The administering committee shall consist of five members: three from the Program, one from a completely unrelated field, and one from a related field (e.g., humanities or social science). In special cases, a four-member committee may be formed from the Program, assisted by an additional member from an outside school or program. The examination shall be oral, scheduled after the completion of course work and the language requirement, and it shall consist of four parts: Theory and Methodology (emphasizing either literature and the arts or history and the social sciences); American Institutions; Ethnic Cultures in the United States; and the student's Area of Special Interest. Each student, in consultation with his committee, shall determine the minimum reading requirements for the several parts of the examination.

The Dissertation. This is the final requirement. The final draft of the disserta-

tion must be approved by the student's dissertation committee and shall be in accordance with standards set by the Graduate Division. Students will be expected to complete the dissertation in one year. An oral examination covering the student's dissertation topic will be administered by his dissertation committee (composed of three members of the Program) and shall occur when the student has completed the initial draft of the dissertation.

COMPARATIVE CULTURE FACULTY

Pete Clecak, Ph.D. Stanford University, *Associate Professor of Social Thought and Comparative Culture and Acting Director of Program in Comparative Culture*

Leland C. Barrows, M.A. University of California, Los Angeles, *Lecturer, African History*

Joseph Bell, B.A. University of Missouri, *Lecturer, American Mass Media*

Dickson Bruce, Ph.D. University of Pennsylvania, *Assistant Professor of History and Comparative Culture*

Raul Fernandez, Ph.D. Claremont Graduate School, *Assistant Professor of Economics and Comparative Culture*

James Flink, Ph.D. University of Pennsylvania, *Associate Professor of History and Comparative Culture*

Gilbert Gonzalez, M.A. California State College, Los Angeles, *Acting Assistant Professor of History and Comparative Culture*

Charles Igawa, M.A. California State College, Los Angeles, *Acting Assistant Professor of Political Science and Comparative Culture*

George Kent, Ph.D. University of California, Berkeley, *Associate Professor of Intellectual History and Comparative Culture*

Karen Leonard, Ph.D. University of Wisconsin, *Assistant Professor of History and Comparative Culture*

May E. Loh, B.A. National Central University (Chungking, China), *Lecturer, Chinese Language*

Arthur J. Marder, Ph.D. Harvard University, *Professor of History and Comparative Culture*

Jay Martin, Ph.D. Ohio State University, *Professor of English and Comparative Literature, and Comparative Culture*

Oliver L.E. Mbatia, Ph.D. Oregon State University, *Assistant Professor of Economics and Comparative Culture*

Carlton Moss, *Lecturer, Film Writing and Producing*

Carlos Munoz, Ph.D. Claremont Graduate School, *Assistant Professor of Political Science and Comparative Culture*

George O. Roberts, Ph.D. Catholic University of America, *Professor of Sociology and Comparative Culture and Assistant Vice Chancellor – Academic and Student Affairs*

Louis Smith, *Lecturer, The Black Community and Urban Society*

Dickran Tashjian, Ph.D. Brown University, *Assistant Professor of Comparative Literature and Comparative Culture*

Sharlie Ushioda, M.A. Harvard University, *Lecturer, Japanese Literature*

Joseph L. White, Ph.D. Michigan State University, *Professor of Psychology and Comparative Culture*

Kaori T. Wilson, M.A. University of Southern California, *Lecturer, Japanese Language*

COURSES IN COMPARATIVE CULTURE

See page 5 for explanatory notes on course listings.

1A-B Man in Cultural Perspective (1-1) F, W
Introduction to the study of culture – its evolution and nature as the primary determinant of human behavior. Emphasis upon comparative analysis of cultural systems, particularly similarities, differences, and relationships among the cultures represented in the Program. Prerequisite to the major; must be completed by end of sophomore year.

10 Introductions to Culture Study (1) S
Section A, Introduction to African Culture; Section B, Introduction to American Culture; Section C, Introduction to Asian Culture; Section D, Introduction to Black Culture; Section E, Introduction to Chicano Culture.

Each introductory section will present a general overview of the nature of that particular culture – patterns of behavior, characteristic assumptions, modes of preserving continuity and facilitating change. Three of these are required. One section must be taken in the spring following completion of Comparative Culture I. Prerequisites: Comparative Culture 1A-B or consent of instructor.

100A Women in Culture (1)
Study of the role of women in American society and comparison to women's roles in other cultures. Female identity and socialization. Anthropological perspectives on the family and sex roles. History of the women's movement and issues of women's liberation.

100B Women in Literature (1)
Significant works of literature about and/or by women will be evaluated against the period of history in which they were written. The cultural, ethnic, social, and later psychoanalytical milieu of the period in terms of impact on the roles of women developed through literature.

100C Special Studies in the Status of Women in Culture (1)
Section A, Women at Work. A seminar designed to explore and learn more about the working woman, her socialization towards work and career and her images of work. Special attention will be given to women in the professions, and the potential conflict between home and career.

102 Statistics for Culture Study (1)
A survey of the interpretation of statistical reports and other documents related to the analysis of culture.

103A-B-C Economy & Culture (1-1-1)

103A. The economic problems of groups and ways of approaching them. A basic examination of men, ideas, and economic systems.

103B. An introduction to contemporary economic thought; the historical development of economic analysis; the development of industrial capitalism; philosophical and political issues in economics.

103C. Introduction to Marxist economic theories and other orthodoxies; discussion of specific economic systems: capitalism, socialism, etc.

104 A Case Study in Cost-Benefit Analysis (1)
The tools of cost-benefit analysis are used to explore the virtues of different programs for the rehabilitation of drug addicts. Prerequisite: One quarter of economics.

105 Political Economy of the Third World (1)
Economic, political, and cross-cultural analysis of contemporary problems of colonialism, "underdevelopment," and racism in the Third World countries and in the U.S.A. Prerequisite: Consent of the instructor.

106 Comparative Ethnic Politics (1)
An analysis of contemporary ethnic politics in the United States with particular emphasis on the politics of nonwhite ethnic, e.g., Chicano, Black, Asian-American, and

American Indian, and the implications of their politics to the American political system.

107 Urban Politics (1)
A systematic analysis of the nature and the future of the urban crisis. The emphasis will be on the politics of poverty, race, and social change. Prerequisite: Consent of instructor.

109A-B Minority Movements in America (1)
A comparative political-sociological analysis of movements in Ethnic America. Emphasis on the Chicano, Black, Asian, and Native-American minorities.

111 Urban Conflict: Analysis of Contemporary Issues in the Industrialized Societies and American Cities (1)
Analysis of the structure of urban conflict and various proposals for solution to the problems of housing, education, welfare, urban decay, urban development (as well as redevelopment), and race relations. Emphasis on the notion of community control and self-determination. A workshop may be established to scrutinize the feasibility of chosen strategies for the resolution of conflict(s).

112 Alienation in Modern Man (1)
The course will examine varying manifestations and interpretations of the alienation syndrome in modern man.

113 Economics of Discrimination (1)
Studies of occupational ceilings, job penetration, and other factors involving economic discrimination.

114 Urban Problems (1)
Analysis of problems of minorities in the city. This course will require field observation and analysis.

115 Introduction to Philology (1)
A lecture and discussion course in the nature of language, its spoken and written forms, and its relation to thought and other forms of human culture; the verbalization of morality, values, religion, aesthetics, and politics; problems in the interpretation of ideological works of ancient and recent times; semantics and psychology of speech; image, gesture, and onomatopoesis as communication — beyond the dictionary.

116A-B-C Images and Manifestations of Socialism (1-1-1)
Historical and critical survey of Marxian perspectives on capitalism and socialism. Fall: An introduction to classical Marxism. Winter: An examination of the Soviet and Chinese experiments and their historical implications for socialism elsewhere. Spring: An inquiry into the prospects for varieties of capitalism and socialism in the United States and the West, the USSR and Eastern Europe, and the Third World. Open only to upper-division students.

117 Economic Development of Ghetto and Barrio (1)
Analysis of the socio-economic, political, economic forces which cause the creation of the ghetto as an underdeveloped colony. Theories and policies necessary for economic development in Third World Countries.

118A-B Comparative Cultures of Western Europe (1-1)
The geography, people, formative historical influences, institutions, and contemporary problems in historical perspective, treated by country (Scandinavia as a unit) and comparatively. Previous course work in European history is desirable but not essential. Fall: Northern Europe (Great Britain, Scandinavia, Germany). Winter: Southern Europe (France, Italy, Spain).

120 The Poor in U.S. History (1)
A survey of the experience of the poor within the history of the United States. Students will study theoretical frameworks for the existence of poverty and models for its eradication.

121 Race and Economics (1)
Economic analysis applied to political ideologies with the particular emphasis on

nationalistic interpretation – Black Power, White Power, Black Capitalist, Civil Rights; employment and income, government programs, trade unions.

125 Comparative Nationalist Movements in India (1)
To reach generalizations about the rise of nationalism in the Third World, we will take four case studies and investigate such variables as the colonial administration, primary resistance movements, religious separatist movements, the educated class and early constitutional agitation, the role of traditional political leaders, goals and methods of nationalist politicians, presence of "white settlers," etc.

126 Revolutionary Cuba (1)
An intensive reading course of major works on the Cuban revolution 1959-1973. Familiarity with the history of Cuba up to 1959 is desirable.

127 Art and Culture (1)
A one-quarter introductory course primarily on the junior level considering the relationships between art and cultures: the ways culture shapes art, and the way art expresses cultural values. Covers both literature and visual art.

175 Special Topics in Comparative Culture: Topics Vary (1-1-1)

180 Theory of Imperialism (1-1-1)
A variety of non-Marxist approaches to the notion of imperialism including the classic work of Hobson and the contributions of Schumpeter, Arendt, and Lichtheim. Also, major Marxist works beginning with Marx's various writings on the subject and Lenin's *Imperialism*, finishing with a survey of the contemporary work of Mandel, Frank, Magdoff, etc.

195 Student-Initiated Courses

197 Field Study (1-1-1) F, W, S

198 Group Directed Reading (1-1-1) F, W, S

199 Independent Study (1-1-1) F, W, S

GRADUATE COURSES IN COMPARATIVE CULTURE

200A-B-C Proseminar in the Study of Comparative Culture (1-1-1)
Required of all first-year graduate students. The first quarter focuses on "Theory and Methods for Interdisciplinary Study in American Cultures"; the second, on "Scope and Methods of Ethnic and Third World Studies." The third quarter is a colloquium in which each student will present a paper before the other members of the proseminar and to which all Comparative Culture faculty are invited.

201 Cultural Determinants of Elite Formation and Power (1)
A comparative analysis of the major socio-cultural values and norms which influence the accessibility to elite status and power of distinct ethnic groups in selected contemporary societies.

202 Comparative Dominant-Minority Relations (1)
A graduate seminar. The course will examine various dimensions of national integration by emphasizing the process of "power distribution" in ethnically/racially heterogeneous societies.

203 Foreign Aid and Socio-Cultural Change (1)
A graduate seminar. The course will examine the concept of development by critically analyzing the principles of foreign aid, their implementation and impact upon the recipient nations.

204A-B Cultural Manifestations of Art (1-1)
A graduate seminar treating the interrelationships between symbolic forms and cultural life. Selected topics and problems yearly.

205A-B-C Images and Manifestations of Socialism (1-1-1)
Images and manifestations of Socialism and critical survey of socialist theory from (roughly) the Enlightenment to the present. The main focus will be on the interplay among socialist ideals, ideologies, and politics in America and in selected parts of the

socialist world. Readings will center on the Marxian tradition, and the primary concern will be to understand the nature and prospects of socialism in the seventies; Soviet socialism, Chinese socialism; and the historical possibilities, or a democratic "socialism" with a human face.

207 Survey Course of Marxism-Leninism (1)
This course will revolve around methodological issues but will include other areas such as "theory of the state," etc. The theme of the course will develop over the following stages: (a) historical and dialectical materialism; (b) the critique of capitalist society; (c) the class struggle and revolution. The reading and discussion in this course will be based primarily on the fundamental works of Marx, Engels, Lenin, Stalin, and Mao Tse-tung.

220A-B Seminar in Automotive History (1-1)
A two-quarter research seminar emphasizing major interpretations, problem areas, and available sources. Students will be expected to prepare oral reports on significant bodies of the literature and to complete a directed research project.

221A-B-C Contemporary Social Theory (1-1-1)
Radical paradoxes and the future of Socialism: a three-quarter seminar-workshop focusing on the central dilemmas of contemporary marxisms – the theoretical relationships between socialism and communism, and the historical and political prospects for socialism and communism in the USSR and Eastern Europe, in China and the Third World, and in the United States and the West. After selecting a major theme, participants will collaborate on a series of essays which hopefully will be published in a short volume. Prerequisite: Consent of instructor.

290 Dissertation Research (1-1-1) F, W, S

291 Directed Reading (1-1-1) F, W, S

299 Independent Study (1-1-1) F, W, S

COURSES IN AFRICAN CULTURE

100 Social Structure and Change in Sub-Sahara Africa (1)
Comparative analysis of societies in "Black" Africa which have recently gained their independence from colonial rule.

101A-B History of West Africa (1-1)

101A (to 1807). A survey of the written and non-written history of the peoples who inhabited the region between the Senegal and Niger Rivers, with a focus upon their social, economic, and political institutions.

101B (1807-1960). A survey of the major events and personalities which have influenced the nature of social organization and change in West Africa since 1807.

102 Social Structure and Change in the Middle East (1)
Survey of the impact of religion, politics, colonialism, and acculturation upon developments in the Middle East since 1914.

103 Southern Africa and Human Rights (1)
Examination of the history and contemporary significance of restrictive social norms in South Africa, Rhodesia, Angola, and Mozambique.

104 History of Eastern Africa (1) S
Survey of the major events and personalities which influenced the nature of social organization and change in Eastern Africa before 1945.

105 African Religions and Value Systems (1)
A comparative analysis of the views and beliefs which have influenced societies and cultures in Africa.

106 Economic Geography of Africa (1) F
A survey and analysis of the natural resources of Africa, in light of the problems posed by the physical and human factors of geography to their development and distribution.

110 Racial and Ethnic Relations in Africa (1)
An analysis of the nature and consequences of relations among racially different populations in Africa. Focus will be upon the impact of racial visibility upon economic and political participation and upon social stratification in selected communities.

111 Social Structure and Change in the Maghreb (1)
Comparative analysis of societies in North Africa which achieved independence from colonial rule after World War II.

112 Africa and the Question of Israel (1)
An examination of the sovereignty of Israel in light of the challenges it poses to African nations and their commitments in both the Arab League and the Organization of African Unity.

118 Peasant Rebellions and Revolutionary Movements in Africa (1)
Historical reaction of Africans to imposition of colonial rule; indigenous organized resistance; modern movements to correct inequities in dependent states.

175 Special Topics in African Culture: Topics Vary (1-1-1) F, W, S

180 Senior Seminar on Africa (1) S
Topics in this seminar will change annually.

198 Group Directed Reading (1-1-1) F, W, S

199 Independent Study (1-1-1) F, W, S

GRADUATE COURSES IN AFRICAN CULTURE

200 Problems of Nation-Building (1) W
A comparative analysis of the factors involved in promoting viable sovereignty in selected African countries. Particular emphasis on the impact of governmental policies and programs of social organization.

298 Directed Reading (1-1-1) F, W, S

299 Independent Study (1-1-1) F, W, S

COURSES IN AMERICAN CULTURE

101A-B-C American Arts (1-1-1)
Each quarter the same as one section of Comparative Literature 104. A study of the relationships between American literature and the visual arts out of the commonality of cultural experience. Presented chronologically, so that fall quarter emphasizes literature and art of early New England, winter quarter explores nineteenth-century cultural expression, and spring quarter considers twentieth-century works of literature and painting. Prerequisite: Consent of instructor.

102A American Communities (1)
A study of the American community from both historical and cross-cultural perspectives. Emphasis is upon the historical development of various forms of community life in American civilization and upon comparison of these forms of community life with one another and with selected forms of community life found in other cultures. Prerequisite: Consent of instructor.

102B American Communities (1)
An interdisciplinary examination of American community culture and American attitudes toward community in the twentieth century. Prerequisite: American Communities 102A and consent of instructor.

104A Nineteenth-Century American Ethnography (1)
Examination of major interpretations of American society and culture from the Revolution to the late nineteenth century with emphasis upon intersectional differences and similarities and the emergence of a distinctively American national character.

104B Twentieth-Century American Ethnography (1)
Examination of the major interpretations of modern American society and culture

with emphasis upon the impact of urbanization and industrialization upon traditional lifeways and the interrelationships among contemporary institutions. Prerequisite: Consent of instructor.

105A Literature and Society (1)
A theoretical assessment of the relationships between literature and society: the concept of utopia and its social implications; the social and literary dimensions of selected utopian and "dystopian" fictions. Readings will include: *WE; 1984; Brave New World;* and *Walden II.*

106A Post-War Social Criticism (1)
Focuses on the major critics and the dominant trends in American social thought which they represent. Critics: James Baldwin, Paul Baran, Daniel Bell, William Buckley, Eldridge Cleaver, J. Wm. Fulbright, John Kenneth Galbraith, Michael Harrington, Irving Howe, Timothy Leary, Norman Mailer, Malcolm X, Herbert Marcuse, C. Wright Mills, David Riesman, Arthur Schlesinger, Jr., and Paul Sweezy.

107 Twentieth-Century American Prose Fiction (1)
Major American novelists between 1900 and the present time.

109 Early New England Arts (1)
A consideration of the visual art and literature of early New England approached from the cultural commonality of Puritanism. The traditional hypothesis that Puritanism was hostile to art shall be tested against the diverse expression provided by ritual, poetry, sermons, portraiture, gravestones, and furniture. Prerequisite: American Culture 100 or consent of instructor.

112 The Motion Picture in Contemporary American Society (1)
A brief history of the commercial motion picture's social and economic development; how and by whom theatrical films are made; the motives, machinations, and techniques of film makers in the creation, distribution, and promotion of commercial motion pictures; the contributions and special problems of the various types of people involved in modern film making. Guest lecturers from the film industry – producers, directors, administrators, actors, publicists, critics – will screen and comment on their own films from the vantage point of their area of expertise, and this will then be related to the formation of social attitudes in the United States.

115 Religion in America (1)
An interdisciplinary examination of American religious organizations and activities. Particular emphasis will be placed on sectarian movements as historical and social phenomena.

116 American Folklore (1)
A study of major genre of folk expression in American history, focusing on how folklore contributes to an understanding of American culture. Attention will be given to the songs, folktales, and folklife of various American groups.

117A-B American Ideologies (1-1) F, W
Examination of political philosophies/thoughts that are comprised in the political fabric of today's America: capitalism, liberalism, reform liberalism, black liberation (and the Third World Liberation Movement), the New Left, American Marxism, and conservatism.

118 Social Change and the American Writer (1)
Some 20th-century American writers' visions of their changing world, focusing primarily upon fictional representations of and responses to social change in the United States. Such concerns as: the impact of technological change on the American artists and on American society, alienation on a social and personal level and its relationship to changing social conditions, the struggle for identity in the context of accelerating social and cultural change.

119 The American Automobile Culture (1)
An examination of the automobile and the automobile industry as a central factor influencing and influenced by American culture.

120 Power in American Society (1)
A theoretical approach to the study of political power in American society, with consideration of the following questions: Who rules America? How is power distributed? What do community power studies tell us about political powerlessness?

121 Politics and Public Education (1)
The course will examine the roll of public education in contemporary America by scrutinizing various issues that have risen in recent times.

122A-B Southern Life and Literature (1-1)
An examination of the American South, with a focus on the relationship between literature and culture. The first quarter will consist of an overview of Southern society and culture, with an emphasis on the twentieth century. The second quarter will consist of discussions of major literary interpreters of Southern life in the twentieth century.

175 Special Topics (1-1-1) F, W, S

180A-B Research Seminar in the Use of Folk Expression (1)
An overview of the types of folk expression, and the theoretical and methodological considerations relevant to their use as data for the study of cultures.

197 Field Study (1-1-1) F, W, S

198 Directed Reading (1-1-1) F, W, S

199 Independent Study (1-1-1) F, W, S

GRADUATE COURSES IN AMERICAN CULTURE

204 The Artist in American Society (1)
From 17th to 20th century, this course traces out the changing conception in America of the artist, his social juncture, the nature or object of his art product, and the role he is to play in culture and the development or preservation of culture. The relation of art to society, to the particular problems of the artist in a democratic society, and to the conflicts issuing from the fact that the artist often possesses or is influenced by a cultural heritage differing from that of his fellow citizens. Artists will include writers, painters, architects, and musicians.

298 Directed Reading (1-1-1) F, W, S

299 Independent Study (1-1-1) F, W, S

COURSES IN ASIAN CULTURE

1A-B-C Modern Chinese (1-1-1) F, W, S

2A-B-C Modern Chinese (1-1-1) F, W, S

3A-B-C Modern Japanese (1-1-1)

4A-B-C Modern Japanese (1-1-1)

100A Japanese Culture (1)
Japan from ancient times to the present.

100B Chinese Culture (1)
China from ancient times to the present.

100C Indian Culture (1)
India from ancient times to the present.

101A-B-C Literary Chinese (1-1-1) F, W, S
An introduction to reading Chinese texts in the premodern "classical" style; problems of logography, syntax, and the use of the dictionary.

102 Japanese Literature in Translation (1) F
Readings in selected poetry, drama, and fiction from Nara times to the present.

103 Contemporary China (1)
Developments in Chinese cultural life since 1911; thought, literature, politics, the arts.

104 Chinese Literature in Translation (1)
The ancient "classics," poetry, the belletristic essay, criticism, the tale and the novel, from the earliest times to the present.

105 Chinese Thought (1)
The rise and development of Confucianism, Taoism, and Legalism; the impact of Indian Buddhism; Neo-Confucianism, reactions to Western ideologies, and modern Maoism.

106 Buddhism in Asia (1) W
The life and thought of the Buddha; the spread of Buddhism into China and Japan and its development in those countries.

110 Readings in Modern Chinese (1)
May be repeated for credit.

111 Readings in Literary Chinese (1)
May be repeated for credit.

112 Confucius (1) F
The life and thought of China's greatest sage; reading and analysis of the *Analects* of Confucius; the social, political, and historical influences on the man and his ideas; the major interpretations of his thought by Mencius and Hsun Tzu.

113 Interdisciplinary Views of Gandhi (1)
Investigates how six different disciplines have focused on Mahatma Gandhi and reached conclusions regarding his life and times. Viewing Gandhi through these six disciplines – history, philosophy, psychology, religion, political science, and sociology – helps understand significant changes in Indian society in the 20th century.

115 Modern Japanese Intellectuals and Writers (1)
Reading and analysis of modern Japanese critical and creative writers; seminar format, with each student pursuing an individual topic.

116 Ancient China (1)
The beginning of Chinese civilization, from prehistoric times, through the Hsia, Shang, and Chou periods, to 221 B.C.; the origins of Chinese social and political institutions, and the rise of the great schools of thought.

117 Chinese Philology (1)
Analysis of the Chinese script; investigations into the meanings of words and phrases in premodern Chinese texts. Prerequisite: Reading ability in literary Chinese.

118 Asian American Experience (1)
A survey course in which socio-political-economic dimensions of Asian-American people will be analyzed – their past, present, and future.

119 Contemporary Japan (1)
The course will examine various issues that form contemporary Japan: changing aspects of both city and rural life, economic planning and development, the role of big business in Japanese politics, Japan's role in the world community.

120 Women in Asia (1)
The historical and present position of women in Asian cultures.

121 Chinese Religion and Ritual (1)
Detailed analysis of the ritual and symbolism of birth, marriage, and death. Consideration of the supernatural, hierarchy, shamanism, and geomancy. Emphasis is on the relationship of religion to the social order, variation of religious forms among different communities, and the functions of religious behavior.

125 Problems of National Integration in India (1)
Introductory course in South Asian politics emphasizing the historical roots and social bases of contemporary politics in India and, briefly, in Pakistan and Bangladesh.

Some of the movements, personalities, and persistent sources of conflict which have shaped Indian politics. Focuses on political development, with some consideration of economic development and foreign affairs included.

126A-B The Role of Hinduism in Indian Society and Politics (1-1)
An historical survey of Hinduism and the caste system in India, tracing their role in Indian society and politics from ancient to modern times. Looks at changes occurring under Muslim rule, under British rule, and under a modern, secular democracy.

175 Special Topics in Asian Culture

197 Field Study (1-1-1) F, W, S

199 Independent Study (1-1-1) F, W, S

GRADUATE COURSES IN ASIAN CULTURE

240 Contemporary Chinese Social and Political Thought (1)
Studies in the beginning and development of Maoism in China, its meaning and implications, and the nature and sources of opposition to it.

298 Directed Reading (1-1-1) F, W, S

299 Independent Study (1-1-1) F, W, S

COURSES IN BLACK CULTURE

1 Communication Skills for Black Students (1)
Sociolinguistic approach to the writing, reading, and speech problems peculiar to Black students, emphasizing the structural differences between ordinary speech and the written "University dialect."

100A-B-C Contemporary Problems (1-1-1) F, W, S
This course will deal with problems related to race and poverty and will involve field work and participant-observation in programs like Operation Bootstrap and Core in Los Angeles and Orange Counties.

105 The Image of the Black Man in American Films (1) W
A history of the portrayal of the black man in American films from "Birth of a Nation" to the present.

106 Workshop in Urban Film-Making (1) S
Continuation of Black Culture 105. This course will provide instruction in the technique of film-making and require each student to make a film dealing with minority or urban problems.

108A-B-C "The Outsider" in Black Literature (1-1-1)
Insight into the development of Black literature in the U.S. during the 19th and 20th centuries, focusing upon the recurring theme of the outsider as depicted in representative works of Wright, Dunbar, DuBois, McKay, Hurston, Toomer, Baldwin, Ellison, Chesnutt, Hughes, Thurman, Fisher, Himes, Cullen, Delany, Jones, Reed, Sanchez, and writers from the Watts Writers' Workshop.

111 Black Philosophical Thought (1)
Evaluates the diverse trends in African civilizations on a philosophical level in an attempt to delineate the various modes of thought patterns and behavior as manifested in Black cultures from early Egypt to the present day. Intended as a survey course on Black Cultural Philosophy.

112 Black Psychology: A Psychological View of the Black Experience (1)
An examination of the personality patterns, psychological dynamics, and socio-cultural styles which have emerged from the encounter of Black people with the American Culture.

113 Black Psychology: The Black Child and the Urban School System (1)
Exploration of the interaction between the Black child and the school in terms of critical issues such as intelligence, achievement, motivation, conformity, alienation, and social change.

114 Black Psychology: Black Power (1)
An examination of the psychological implications of the Black Power concept especially as it relates to a rapidly emerging awareness of the need for self-defined identity anchored in the Black experience.

115 Black Psychology: Mental Health and the Black Community (1)
Examination of the dynamics related to both psychological actualization and psychopathology. Course will also include an exploration of group processes, counseling, and psychotherapeutic models.

116 Social Organization of the Black Community
A selective study of relevant institutions and life styles of the Black community. The focus will be on those forms of social organizations that have developed out of the Black experience including the family, social classes, protest organizations, and political parties.

121 Black Writers Workshop
Practice in writing prose, fiction, drama, short stories, book reviews, and essays from the perspective of the Black experience.

124 Ebonics (1)
Black English. A study of verbal and non-verbal communication as historically evolved from the Black experience and existing as an integral part of contemporary Black America's life style.

125 Black Oral Expressive Styles (1)
Varieties of oral expressions and non-verbal communicative gestures from the Black experience are explored within the scope of the most recent language and communication theory. Concentration on broadening social awareness and developing communicative skills through familiarization and comprehension of Black English.

126 The Philosophy of Black Radical Thought (1)
Emergence of Black Radical Thought through slavery, reconstruction, post-reconstruction, pre-World War II, and contemporary times; as it is expressed through music, sermons, literature, social movements, drama, and political action. Consideration of geographical time frames such as Northern, urban, Southern, rural, and the like.

129 Afro-American History
The history of Black people in the United States from 1559 to Reconstruction. Deals with some traits of their African background and their slave experience in the United States.

130 Black Social Movements and Ideologies
Covers some of the major Black movements of the 20th century from 1920 to 1972. Emphasis will be on Marcus Garvey and his Back-To-Africa Movement; Adam Clayton Powell and his Harlem Movement; Nation of Islam; A. Philip Randolf and the March on Washington; Martin Luther King and the Civil Rights Movements; and the Black Power Movements.

175 Special Topics: Topics Vary (1-1-1) F, W, S

197 Field Study (1-1-1) F, W, S

198 Directed Reading (1-1-1) F, W, S

199 Independent Study (1-1-1) F, W, S

GRADUATE COURSES IN BLACK CULTURE

200A-B-C The Social-Psychological Dynamics of the Black Ethnic Experience in America (1-1-1)
Three-quarter graduate seminar focusing on the Black experience as perceived through literature, drama, music, community institutions, economic systems, political activity, and life styles. Methodological approaches and research strategies; the pattern of delivery service in fields such as health care, housing, education, and welfare; significant directives for social change.

201 Ideology of Blackness (1)
A critical examination of literary and activist manifestations intended to promote "black" cultural identity and affirmation in Africa, the Americas, and Europe since 1772.

298 Directed Reading (1-1-1) F, W, S

299 Independent Study (1-1-1) F, W, S

COURSES IN CHICANO CULTURE

1 Communication Skills for Chicano Students (1-1-1)
Sociolinguistic approach to the writing, reading, and speech problems peculiar to Chicano students, emphasizing the structural differences between ordinary speech and the written "University dialect."

101A-B-C Drama de Aztlan (1-1-1)
The study of Chicano culture through an analysis of Chicano theatre and the philosophy behind its expression. The course will culminate with a production of a play on selected themes of Chicano culture. Open to students interested in developing creative expression, playwriting, stage production, and the arts.

103 Introduction to Economic Discrimination (1)
This course explores economic aspects of discrimination with focus on the Chicano. The methodological approach is eclectic with borrowings from the marginalist, Marxist, and institutional writers in economics and from other social sciences.

105A-B Barrio Studies (1-1)
In cooperation with members of a barrio organization, students will define the problems of a Chicano community as they relate to welfare, housing, unemployment, underemployment, education, police-community relations, and political representation and explore the possibility for the solution of those problems within the context of participation-observation research techniques.

107 Land Settlement Patterns in the Southwest (1)
An examination of a critical period in the development of Chicano culture through a focus on land holding patterns in the southwest under Spanish and Mexican rule before 1864, and the procedures established by the United States to verify Mexican land titles ending with several Supreme Court decisions in the 1890's.

115 Chicano Political Behavior: Scopes and Methods (1)
A critical analysis of social science methodology as it has been applied to the study of Chicano political behavior. General hypotheses related to the Chicano political experience in the United States tested either by micro and macro empirical models of political analysis or critically analyzed within normative conceptual frameworks.

116 Chicano Politics (1)
Examination of dominant themes of social science studies on the Chicano which present findings and conclusions germane to the study of Chicano politics. A model of neo-colonialism will be developed in accordance with a Chicano perspective that views the barrio as an "internal colony." Also, a critical analysis of the Chicano Power Movement within the context of its impact on American politics and on Chicano culture.

118 Chicano Intellectual Thought: Seminar (1)
A critical examination of Chicano literature, focusing on social and political thought and attempting to trace its origin to the philosophical and ideological writings of Mexican and other Third World intellectuals.

119 Protest Movements in Chicano History (1)
A study of Mexican protest movements in the United States since 1848. Survey of the literature with an emphasis on student research.

120A-B The Chicano Community in the Urban Setting (1-1)
Two-quarter course focusing on impact of urban life on Chicano community. First quarter: reading of materials relating to urban studies, acquainting student with

methodology; second quarter: student research project on an aspect of the urban Chicano community.

121 Education of the Chicano Community (1)
A study of the educational complex into which Chicanos have been placed. Analysis of the philosophy and practice of educational institutions and of their effect upon the Mexican community. Prerequisite for all Comparative Culture students emphasizing the study of Chicano Culture.

122 Chicano History Since 1848 (1)
A survey of the history of Mexicans within the United States. The course will emphasize the socio-economic experience of Chicanos in the Southwest with emphasis on the 20th century.

175 Special Topics: Topics Vary (1-1-1) F, W, S

197 Field Study (1-1-1) F, W, S

198 Seminar A, The Image of the Chicano in American Literature (1)
This is a reading course; the student will read at least six books selected from a reading list plus a selection of contemporary Chicano literature.

198 Seminar B, Contemporary Chicano Literature (1)
This is a reading course; the student will read as much as possible (minimally, the equivalent of nine full-length books) from a list of contemporary Chicano writing arranged (1) to move from folk narrative to "serious" literature and (2) geographically (e.g, the work of Chicanos in Mexico, Texas, New Mexico, Arizona, and California).

199 Independent Study (1-1-1) F, W, S

GRADUATE COURSES IN CHICANO CULTURE

200A-B-C The Social-Psychological Dynamics of the Chicano Ethnic Experience in America (1-1-1)
A three-quarter graduate seminar focusing on the Chicano experience as perceived through literature, drama, music, community institutions, ecomomic systems, political activity, and life styles. Methodological approaches and research strategies; the pattern of delivery service in fields such as health care, housing, education, and welfare; significant directives for social change.

201 Seminar on Chicano History (1)
Review of the literature on the history of Mexicans in the United States with a critical analysis of the methodology and areas of study. Students will be required to carry out individual research and to write a research paper upon a theme relating to Chicano History.

298 Directed Reading (1-1-1) F, W, S

299 Independent Study (1-1-1) F, W, S

COURSES IN LATIN AMERICAN CULTURE

101 Latin American Economic Problems (1)
A study of the processes and problems of promoting economic development in Latin America. Includes discussion of national economic planning, population, international assistance. Each student will write a research paper on a particular problem of development of a Latin American country.

102 Latin American Politics (1)
Acquiring an understanding of the revolutionary process in Latin America through critical analysis of the Mexican and Cuban revolutions, and the social, economic, and political forces involved in the struggle for power throughout Latin America.

103 Latin American Culture (1)
A study of political, social, economic, and intellectual forces in Latin America. Major topics: society, politics, and economy; Latin American thought; stability and instability, including revolutionary change; changing Latin American cultures.

105 Historical Survey of Development in Latin America (1)
An examination of the historical foundations of social, political, and economic institutions in Latin America and of their significance in the quest for modernization. Iberian colonization, independence movements, and the evolution of the national states to the present.

107 Latin American Development (1)
Marxist-Leninist theory of underdevelopment in Latin America: not primarily a course on Latin America. Concerns fundamental bases that permit an understanding of the Latin American revolutionary processes. Theme developed in five stages: Imperialism, the highest stage of Capitalism; Capitalist backwardness in Latin America; Struggle for national liberation; Revolution of "new democracy;" Popular warfare.

110 Cuban Civilization (1)

198 Directed Readings (1-1-1) F, W, S

199 Independent Study (1-1-1) F, W, S

GRADUATE COURSES IN LATIN AMERICAN CULTURE

201A-B-C Latin American Culture
Exploration of the historical causes of underdevelopment in Latin America. Emphasis will be on the value of the different methodologies that have been used in the past to analyze the problems of this area of the world.

202 Reform and Revolution in Latin America (1)
Seminar focusing upon models for change in Latin America since the Wars for Independence. Students will analyze and compare the different approaches to social change and write a research paper on a theme relating to the seminar.

298 Directed Reading (1-1-1) F, W, S

299 Independent Study (1-1-1) F, W, S

The following courses are given in the Department of Spanish and Portuguese and may be counted toward a comparative group: 110A-B, 130A-B-C, 131A-B-C, 150, 233A-B-C, 234, 235, 260A-B-C.

department of information and computer sciences

The development of the modern digital computer has made possible the solution of large-scale information processing problems in science, industry, and government. These problems include predicting the orbit of a satellite, simulating the economy, keeping track of inventories, and checking income tax returns. Such problems are solved by having the computer execute a procedure – a sequence of information processing operations including but not limited to the conventional arithmetic operations of addition, subtraction, multiplication, and division. Information and computer science is concerned with the development of procedures which are effective and efficient, languages suitable for stating these procedures, and systems for executing procedures.

The implications of research in the development of information processing procedures and of systems for preparing and executing these procedures extend beyond the direct applications in using the modern digital computer to solve problems ranging from bookkeeping to the control of orbiting satellites. Many animate and inanimate systems can be usefully viewed as information processing systems and analyzed in terms of the way they represent, store, and process information. Thus information and computer science provides a point of view, an approach, for studying phenomena in many sciences.

Degrees Offered

Information and Computer Science ..... B.S., Ph.D.

UNDERGRADUATE PROGRAM

The undergraduate program in information and computer science is designed for students preparing for professional careers and for students preparing for graduate study in information and computer science. The program is designed to acquaint the student with the presently available methods of information and computer science which are useful in solving problems of science, industry, and government; to prepare the student for the additional formal and self education he will require in this rapidly developing field; and to foster and extend the student's abilities to solve the kinds of problems encountered in information and computer science. The use of the computer as a problem-solving tool and the effects of its adoption on procedure and data representation are the underlying themes of the program.

Students enrolled in other degree programs who are interested in digital computer programming will normally begin their studies with Introduction to Digital Computation (ICS 1) and continue in the programming sequence with Computers and Programming (ICS 2) and Information Structures (ICS 3) as far as their interests require and their programs permit. Students who are doing, or planning to do, extensive work with numerical problems are advised to consider courses in numerical analysis.

Students are advised by faculty and staff members on academic matters. Advising of undergraduate students is coordinated by the departmental counselor who also provides information on vocational and counseling services available on the campus. Advising of graduate students is coordinated by the faculty graduate advisor.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

Departmental Requirements

Mathematics 2A-B-C, 6A-B-C, and three quarters of a coherent unit of any upper-division mathematics course. As a suggestion, students with interests in mathematical applications to physical science may wish to take 105A-B-C or 143A-B-C; those interested in the social or biological sciences may wish to take 130A-B-C, 131A-B-C, or 191A-B-C; and students interested in the theoretical aspects of computer science may wish to take 120A-B-C, 150A-B-C or 155A-B-C. Any upper-division mathematics class except 192 is acceptable for the third year mathematics requirement. Information and Computer Science 1, 2, 3, 110A-B, 120A-B, 130A-B, 190A-B-C.

These requirements are under study and may be changed in the future. Students should consult the Departmental Information Bulletin, issued in fall, 1973, for a complete listing of courses and subject content.

JOINT PROGRAM WITH THE GRADUATE SCHOOL OF ADMINISTRATION

The Department of Information and Computer Science and the Graduate School of Administration offer a special five-year program for selected students leading to both a Bachelor of Science degree in Information and Computer Science and a Master of Science degree in Administration. See the description of the Graduate School of Administration program in this catalogue. Inquiries should be directed to the Graduate School of Administration.

GRADUATE PROGRAM

The doctoral program is designed to prepare teachers and researchers in computer science. The program consists of three phases: study of core topics of computer science, followed by the preliminary examinations (typically taking 12-15 months); independent research into several specialized topics of interest, followed by a candidacy examination (typically 9-18 months); significant research, followed by a public defense of the written dissertation (typically 15-24 months).

The program is designed to be a full-time activity since quality graduate education demands the full concentration of students and faculty. No Master's Degree is offered.

Substantive interests of an academic department are, of course, governed by the interests of its members (including students). The main areas of interests of the ICS Department are artificial intelligence, software systems, computer systems, and computer-aided instruction. There are possibilities for dissertation work in many sub-areas of these broad categories and, in addition, it is possible for a thesis student to work under the direction of a faculty member of another department.

Although described in a formal manner below, the program in fact strives to maintain an informal environment conducive to learning and individual development of students' strengths. The small size of the program (approximately 10 faculty and 35 students in 1973) makes frequent and informal interaction between all members of the department a reality.

Admission to the Program

Approximately 12-15 students are admitted each year. Applications are evaluated on the basis of the student's prior academic record and more importantly, his or her potential for creative professional contribution to computer science. Applicants are expected to have skills in computer programming at least equivalent to those obtained by good students in a one-year college-level course in programming, and skills in mathematics equivalent to those obtained by good students who complete college-level courses in logic and set theory, analysis, linear algebra, and modern algebra or probability and statistics.

Applicants should take the verbal and quantitative sections of the Graduate Record Examination. Where feasible, personal interviews are desired, but

inability to have one in no way prejudices an application. Additional information on the formalities of application can be obtained from the Office of Graduate Admissions. Further information on the department and the graduate program can be obtained by writing to the department.

Financial Assistance

Limited financial assistance is offered to students in the form of teaching and research assistantships. Stipends vary, depending on the duties involved and range upwards from $3000. More than half of the students in residence in 1973 will have support from the department.

Requirements for the Ph.D.

The program consists of three phases of study and examination. Phase I begins when the student enters graduate school and ends with the preliminary examinations. During this phase the student will spend most of his time acquiring breadth of knowledge in computer science and related subjects via reading and/or successfully completing the courses offered in the core curriculum (ICS 200A-B-C, 210A-B-C, 220A-B-C). Courses are *not* required and preliminary exams may be taken without taking all (or any) courses. The department requires that all graduate students participate in teaching activities sometime during their tenure in the department. This is often done during Phase I.

Phase II begins after passing the preliminary examination and ends with the candidacy exam. The student's main aim during this phase should be to gain depth of experience in computer science without necessarily making a commitment to a definite thesis topic. The student should be taking specialized courses in computer science and attempting minor research projects under the supervision of a faculty member. The student should attempt to study at least one topic in depth while developing a capability for independent research. Typically, after one year, the student applies for admission to candidacy. After the faculty reviews the student's progress and potential, a committee of the faculty is appointed by the Graduate Division to conduct the candidacy examination.

Phase III begins after admission to candidacy. During this period the student is engaged in dissertation research. The research is expected to be an original and substantial contribution to computer science. The student is expected to demonstrate professional maturity and independence in doing the research. One or more faculty members normally work closely with the student in an advisory capacity. This phase normally lasts 12 to 24 months but may be extended provided the faculty determines that the student is making satisfactory progress.

INFORMATION AND COMPUTER SCIENCE FACULTY

Martin Kay, *Professor of Information and Computer Science and Chairman of the Department*
William Ash, *Assistant Professor of Information and Computer Science*
Robert J. Bobrow, *Lecturer in Information and Computer Science*
John S. Brown, *Assistant Professor of Information and Computer Science and Social Sciences* (On leave)
David J. Farber, *Associate Professor of Information and Computer Science*

Julian Feldman, *Professor of Psychology and Information and Computer Science and Assistant Chancellor for Computing*
Peter Freeman, *Assistant Professor of Information and Computer Science*
William Howden, *Lecturer in Information and Computer Science*
Robert E. Kling, *Assistant Professor of Information and Computer Science*
William M. Newman, *Assistant Professor of Information and Computer Science*
Frederic M. Tonge, *Professor of Administration and Information and Computer Science*

Associated Faculty

Alfred M. Bork, *Professor of Physics and Information and Computer Science*
John P. Boyd, *Assistant Professor of Anthropology and Information and Computer Science*
Myron L. Braunstein, *Associate Professor of Psychology*
George W. Brown, *Professor of Administration and Information and Computer Science*
Henry J. Hamburger, *Assistant Professor of Mathematical and Computer Models*
Keith E. Justice, *Associate Professor of Population and Environmental Biology and Information and Computer Science*
Jack Sklansky, *Professor of Electrical Engineering and Information and Computer Science*
Kenneth N. Wexler, *Assistant Professor of Psychology*

LOWER-DIVISION COURSES IN INFORMATION AND COMPUTER SCIENCE

See page 5 for explanatory notes on course listings.

1 Introduction to Digital Computation (1)
Concepts and properties of procedures, language and notation for describing procedures, for their solution, application of a specific procedure-oriented language to solve simple numerical and non-numerical problems using a computer.

2 Computers and Programming (1)
Logical basis of computer structure, machine representation of numbers and characters, flow of control, instruction codes, arithmetic and logical operations, indexing and indirect addressing, input-output, subroutines, linkage, macros, interpretive and assembly systems, pushdown stacks, and recent advances in computer organization. Several computer projects to illustrate basic concepts will be incorporated. Prerequisite: ICS 1.

3 Information Structures (1)
Basic concepts of data. Linear lists, strings, arrays, and orthogonal lists. Representation of trees and graphs. Storage systems and structures, and storage allocation and collection. Multilinked structures. Symbol tables and searching techniques. Sorting (ordering) techniques. Formal specification of structures, data structures in programming languages, and generalized data management systems. Prerequisite: ICS 2.

10 Computer Appreciation
An introduction to the current state of information and computer science and technology for the non-technical student. Provides an overview for the person who wants to understand computers and automation as a major element in our technological society. Terminology and concepts; information structures; hardware and software; programming languages; applications in business, science, and education; implications.

15 Semantics of Computing (1)
Introduction to computers intended primarily for students in the social sciences, fine arts, and humanities. In this course we shall stress the non-numeric uses of computers including their use as powerful symbol manipulators. Emphasis will be on discovery of computing concepts through actual use of computers. Credit may not be received for both this course and ICS 1.

90 Survey of Programming Languages (1)
Presentation and comparison of the procedural and data representation capabilities of several programming languages. Computer solution of problems in each language. Prerequisites: ICS 1 and ICS 2.

UPPER-DIVISION COURSES IN INFORMATION AND COMPUTER SCIENCE

110A-B Programming Languages and Systems (1-1)
Formal description of algorithmic languages, e.g., ALGOL, and the techniques used in their compilation. Study of syntax, semantics, ambiguities, procedures, replication, iteration, and recursion in these languages. Syntactic decomposition and the theory of compilers which are syntax directed or recursively controlled. Input-output and storage systems, structures and transformations of data bases, assembly and executive systems. Prerequisite: ICS 3.

120A-B Computer Organization (1-1)
The design of information processing systems. Among the topics discussed will be micro-programming and hardware-software tradeoffs. Consideration of novel computer organizations and the relation of organization to problem-solving capabilities. Prerequisite: ICS 2. Recommended: ICS 110A-B.

130A-B Formal Models in Information and Computer Science (1-1)
A discussion of various types of automata, such as finite, probabilistic, growing, and reproducing automata. Representation of automata by regular expressions, state graphs, logical nets, recursive functions, and Turing machines. Prerequisite: ICS 2.

180 Special Topics (1)

190A-B-C Senior Seminar (1-1-1)
Students will participate in individual and joint projects on special topics in the field. An opportunity to explore selected topics in greater depth. Some possible topics: Advanced Computer Organization, Formal Languages and Syntactic Analysis, Computational Linguistics, and Heuristic Programming. Prerequisite: Senior standing in ICS or consent of instructor.

199 Individual Studies (1)

GRADUATE COURSES IN INFORMATION AND COMPUTER SCIENCE

Graduate-level seminars and workshops are not all offered each year but are offered as student and faculty interests dictate.

200A-B-C Proseminar in Information and Computer Science (1-1-1)
Proseminar in Information and Computer Science is a combination of formal courses, seminars, tutorials, and reading courses to acquaint graduate students with selected topics in computer organization, logical design, linguistics, automata theory, numerical methods, and human information processing.

210A-B-C Advanced Algorithmic Analysis (1-1-1)
Advanced techniques for programming digital computers including the analysis of numerical and non-numerical algorithms, information representation and organization, heuristic programming, and optimization techniques.

220A-B-C Programming Languages, Translators, and Systems (1-1-1)
Formal description of algorithmic languages and the techniques used in their transla-

tion. Study of syntax, semantics, ambiguities, procedures, replication, iteration, and recursion in these languages. Syntactic decomposition and the theory of translators which are syntax directed or recursively controlled. Input-output and historic systems, structures and transformations of data bases, assembly and executive systems.

250 Seminar in Programming Languages, Translators, and Systems (1)

251 Seminar in Artificial Intelligence (1)

252 Seminar in Automata Theory (1)

253 Seminar in Formal Languages (1)

254A-B-C Seminar in Pattern Recognition (1-1-1)

255A-B Seminar in Self-Organizing Systems (1-1)

256 Seminar in Computer Architecture (1)

257 Seminar in the Economics of Computation (1)

258 Seminar in the Social and Economic Implication of Computers and Automation (1)

259 Seminar in Optimization Techniques (1)

260 Seminar in Computational Linguistics (1)

261 Seminar in Numerical Analysis (1)

262 Seminar in Models of the Brain (1)

270 Workshop in Programming Languages, Translators, and Systems (1)

271 Workshop in Artificial Intelligence (1)

272 Workshop in Automata Theory (1)

273 Workshop in Formal Languages (1)

274 Workshop in Pattern Recognition (1)

275 Workshop in Self-Organizing Systems (1)

276 Workshop in Computer Architecture (1)

280 Special Topics in Information and Computer Science (1)

298 Thesis Supervision (1)

299 Individual Study (1)

program in social ecology

If you are interested in any of the following career options, the Program in Social Ecology provides an appropriate educational setting:

Clinical or community psychologist
Behavior modifier
Counselor
Mental health worker
Youth worker
Law enforcement officer
Criminal justice researcher
Attorney-at-law
Correctional worker
Probation or parole officer
Environmental impact evaluator
Environmental specialist
Sanitarian
Environmental educator
Environmental administrator
Urban designer
Urban and regional planner
Child psychologist
Child care specialist (day care centers, Head Start, etc.)
Special educator

Several of the above career choices require graduate education, but in most cases the B.A. in Social Ecology (with proper selection among courses) provides full educational qualification. To facilitate career patterning, the courses in Social Ecology are organized into subprograms. These are: Mental Health, Criminal Justice, Planning and Public Policy, Environmental Quality and Health, Human Development, and Human Ecology. Brief descriptions of these subprograms are presented later.

The Program in Social Ecology was incorporated as an academic unit at UCI on January 1, 1970. While the Program is organized like any other academic unit of the University, it is unique in emphasizing all knowledge and methodology associated with the area *man and his environment.*

The Program was conceived and developed for the purpose of providing direct interaction between the intellectual life of the university and the recurring problems of the social and physical environment. And since it was founded on the conception of man as a biological organism in a cultural-physical environment, the orientation is necessarily multidisciplinary. This orientation pervades the curricula which are aimed at equipping students to attack and solve environmental problems. In our context of usage, environmental problems include all aspects of man's relation to other men and to his social heritage, on the one hand, and man's relation to his broader biological and physical environment, on the other.

It is axiomatic in the Program that learning must be applicable to the community and the community must serve as an auxiliary source of educational enrichment. Because the approach combines environmental education and community activity, the curricula of the Program are organized by problem area, not by discipline or academic subject matter. The curricula are oriented toward producing a coordination between on- and off-campus experience, theoretical and applied learning, so that each enhances and enlarges the other. The Program is innovative in that it enables students to work effectively on community problems in a variety of contexts, while simultaneously meeting the central goals of an undergraduate education. Students are free to choose their fields of assignment and their associated study programs; required field study is completed during the junior and senior years.

The following are agencies to which students have been assigned to satisfy the field study requirement: Orange County Planning Department; California Youth Authority; Orange County Community Mental Health Services (regional teams, central office consulting, research); Orange County District Attorney's Office; Environmental Educational Council; Mardan School for Educational Therapy; Veteran's Administration Hospital; Riverside Police Department; Head Start School; Long Beach Neuropsychological Institute; Providence Speech and Hearing Institute; Big Brothers; Fairview State Hospital; and Costa Mesa Police Department.

In operation, the curricula in Social Ecology are aimed at three classes of students. First, the Program provides the context for educating people needed in professional capacities by various governmental agencies and industrial departments. It has been an initiator, for example, of specialized training in the mental health area at the university level – where the B.A. degree fully qualifies Social Ecology graduates for a new classification of mental health worker.

Second, the Program provides the setting for preparing students for professional specialization in schools of administration and law, as well as for graduate work in such academic units as social sciences and biological sciences. To illustrate, our curriculum in criminal justice is proving to be excellent pre-law training. In this curriculum, students spend up to one-fourth of their junior and senior years in such field activities as the courts, law enforcement agencies, probation units, and the criminal justice council. The Program expects to produce graduates with unique abilities and capacities for graduate education. Even the most traditional disciplines are calling more and more for people with cross-disciplinary backgrounds.

And finally, the courses of study of the Program are highly appropriate for educating students to become more effective and knowledgeable citizens because of a familiarity with community problems and the potential modes of solution, regardless of students' ultimate career objectives. For example, working in a child guidance clinic and a crisis clinic can be of immense value to a person who later chooses teaching as a career goal; similarly, assignment to air or water pollution control agencies can be of great help to someone who chooses industrial management as a career.

By making most of its courses available to students majoring elsewhere on the campus, the Program encourages the development of an environmental outlook among students whose primary interests are more traditional. (The principal exception to this policy is field study; supervision of field study is an extremely time-consuming activity on the part of the faculty, so enrollment is limited to majors.)

Major Subprograms

Mental Health (Community Psychology, Behavior Change): The mental health subprogram focuses on preventive mental health, community intervention and behavior change. A major tenet of the approach is that dysfunctional behavior must be considered within the context of the immediate environment, physical as well as social. Courses are offered on forms of psychopathology and discordant behavior patterns in children, adolescents, and adults. Students learn how to make systematic behavioral observations and careful assessments of all factors contributing to problems in living. Courses such as Principles of Prevention in Mental Health, Methods of Group Psychotherapy, Counseling Theory, Behavior Modification, and Methods of Interviewing are offered. Approximately 100 agencies are available for field study in this area, including community clinics, state hospitals, and pre-school and special education programs. Depending on interests, experience, and competence, a student may do crisis intervention, serve as a co-leader in group or play therapy, plan and implement remedial programs for handicapped children, or serve as a consultant for families or classrooms. A major objective is to train social change agents who, after completing their undergraduate education, will be able to function as competent mental health professionals in the community.

Criminal Justice: The Criminal Justice subprogram provides Social Ecology students with an opportunity to examine critical issues in criminal and delinquent behavior and society's reaction to legally proscribed acts. It is intended to prepare students for careers in law enforcement and corrections, as well as for admission to graduate and professional schools. Course offerings afford a sound educational experience by moving students through an examination of

social problems that are involved with crime, an analysis of societal reactions to these problems, and to a careful assessment of the organization and operation of the criminal justice system as it now functions.

Field study placements are available in police departments, prosecutors' and public defenders' offices, probation and parole agencies, and the state juvenile prison system. The variety of courses offered includes Forms of Criminal Procedure, Police-Community Interaction, and Delinquency and Juvenile Justice.

Environmental Quality and Health: The subprogram encompassing environmental quality and health is primarily concerned with the interaction of man and his physical and biological environment. Courses in this subprogram include Man, Food and Nutrition; Environmental Education; Work and Institution Environments; and Community Health.

The subprogram aims at providing the tools necessary to improve human, urban, rural, and recreational ecology in relation to general health and well-being. Students are exposed to the following areas: the residential environment, the recreational environment, the work environment, institutional environments (hospitals, jails, schools, etc.), consumer protection, environmental and occupational epidemiology, environmental education, and environmental administration. In addition to being a service area to other subprograms and other university majors, courses are designed to prepare the students for professional careers in the areas of administration, the technical aspects of environmental quality and health, preparation of environmental impact statements, and community environmental education. Students may concentrate in one or more areas of their choice. However, an interdisciplinary approach is encouraged. Special emphasis is placed upon the roles of individual citizens and community organizations, both governmental and private, in maintaining and enhancing the quality of human environment. Field study is done at environmental information centers, pollution control agencies, and health centers.

Human Development: The human development subprogram provides curricula dealing with the cultural and physical progression of human beings from birth to death. Courses in this subprogram range from Early Child Development, through Adolescent Development, to Death and Dying in America.

A major component of this curriculum is child development. This subprogram has been devised jointly with the Office of Teacher Education at UCI and provides the appropriate academic home for students aiming for State Credentialing in Early Childhood Education.

Planning and Public Policy: The Planning and Public Policy subprogram is concerned with the public sector's role in protecting and improving man's environment. The "environment" for the Planning and Public Policy subprogram includes social and economic, as well as natural systems. The student is introduced to the efforts of state, local, and federal government to control such societal problems as crime, poverty, pollution, and poor housing. The subprogram focuses on government's regulatory power as exercised through urban planning, zoning and health codes, and fiscal policy.

The student takes courses such as Introduction to Urban Systems, Problems

of Metropolitan Areas, Planning Theory, Environmental Law, Economic Analysis of Metropolitan Areas, and Public Planning's Political Environment. In addition to his course work, the student serves internships in the community. UCI is ideally located for field work in Planning and Public Policy. Irvine is the largest planned new town in America, and Orange County is the fastest growing metropolitan county in the country. With a population of over 1.5 million, the County is already the tenth largest in the United States. Such growth has made planning policy a crucial element of local government. Social Ecology students are participating in the planning process both for their benefit and for the community's.

Human Ecology: The Human Ecology subprogram looks at man and the environment primarily in biological rather than sociological terms, bearing in mind always that the disciplinary separation is based on historic reasons rather than reality. There is research in progress on human population growth, population structure, and human mobility which is related to known environmental limits such as those imposed by watersheds and airsheds. A start has been made in correlating some of these population attributes with behavior, and by so doing, estimates can be made of the numbers of humans that given environments can sustain. The findings from these research activities are presented in a series of courses in the Human Ecology subprogram. There is a lower-division class dealing with the capacities and limits to growth, and one dealing with basic ecological concepts. Two upper-division courses are the Dynamics of Human Population, and Human Evolution.

A joint course with the Schools of Biology, Engineering, and Administration explores community management interactions in a modern gaming situation. Among the optional special projects of this course is an exercise in the preparation of environmental impact reports.

Degrees Offered

Social Ecology ..... B.A.

Honors at graduation will be awarded to about 12% of the graduating seniors. Initial eligibility for such honors will be on the basis of grade point average. Among those qualifying, the awards of *summa cum laude, magna cum laude,* and *cum laude* shall be determined by a committee that considers, in addition to grade point average, scholarships displayed in day-to-day work, contributions to the community of social ecologists, performance in field assignments, and a paper defining a community problem and demonstrating insight into its causes, its bases of continuance, and the potential paths toward solution.

Requirements for the Bachelor's Degree

University Requirements: See page 31.

Departmental Requirements

Social Ecology 1; any three courses from the introductory sequence (Social Ecology 2 through 9); Social Ecology 10; appropriate preparatory courses for the field study paths undertaken; between four and six quarter-courses of Field Study (Social Ecology 197); and five upper-division courses in Social Ecology (those numbered 100 or above).

During the junior and senior years, the student majoring in Social Ecology is required to complete between four and six quarter-courses in field study.

Field work in Social Ecology must be sharply differentiated from the work of a social worker or a community worker or any comparable applied job. The field program is aimed at enhancing the *learning* experience of students by making field and academic aspects directly relevant to each other. Field study assignments are under the direct supervision of field personnel, but each field project has a faculty advisor who visits students and evaluates their work, coordinates various efforts, and is responsible for the intellectual-academic policies involved in the work. Moreover, some aspect of the advisor's own research is presumably in the area under his direction and further supports the work in the field and coordination with campus activities.

Students in all field assignments work as a part of a project team. Their particular assignments are a function of their backgrounds and accumulating experience. When appropriate, they become participating members of the community of their assignments.

While there is broad overlap, field assignments are classified in accord with the MAJOR SUBPROGRAMS of Social Ecology. Thus, for example, assignment to the Orange County Planning Department is classified under Planning and Public Policy, while assignment to the Child Guidance Clinic of Orange County is classified under Mental Health. Students choose subprogram area and specific agency within that area in consultation with faculty advisors. To facilitate these selections, there is a manual of available field placements for each subprogram. (Students may pick up these manuals in the Social Ecology Office and apply to start field study during the third quarter of their sophomore year.) It is expected that students will choose field agencies in at least two subprogram areas.

On the first Thursday of each quarter there is a noon meeting for all students expecting to do field study assignments that quarter. There is a general discussion about field study assignments, what is expected in the field, and any problems that have been encountered. This is followed by individual enrollment into field study by the advisors. The importance of this meeting must be emphasized as it is the only time to enroll into new field study assignments.

Planning a Program of Study

Since there is great flexibility in choices among academic courses and field study placements, it is extremely important that each major work closely with his academic advisor. This contact will facilitate the development of a coherent academic plan for the students, providing important feedback to aid achievement of primary goals and adequate bases for field study selection.

SOCIAL ECOLOGY FACULTY

Arnold Binder, Ph.D. Stanford University, *Program Director, Professor of Social Ecology*

Albert J. Ahumada, Jr., Ph.D. University of California, Los Angeles, *Assistant Professor of Psychology and Social Ecology*

Robert E. Bickner, B.A. University of Florida, *Research Economist, Public Policy Research Organization, Lecturer in Social Ecology*

Arthur S. Boughey, Ph.D. Edinburgh University, Scotland, *Professor of Population and Environmental Biology and Social Ecology*

Ralph A. Catalano, Jr., Ph.D. Maxwell School, Syracuse University, *Assistant Professor of Social Ecology*

Richard L. Degerman, Ph.D. Johns Hopkins University, *Associate Professor of Psychology and Social Ecology*

C. David Dooley, Ph.D. University of California, Los Angeles, *Assistant Professor of Social Ecology*

Amer El-Ahraf, Dr.P.H. University of California, Los Angeles, *Assistant Professor of Social Ecology*

John V. Flowers, Ph.D. University of Southern California, *Assistant Professor of Social Ecology*

Gilbert L. Geis, Ph.D. University of Wisconsin, *Professor of Social Ecology*

Louis A. Gottschalk, M.D. Washington University Medical School, *Professor and Chairman, Department of Psychiatry & Human Behavior, Professor of Social Ecology*

John T. Monahan, Ph.D. Indiana University, *Assistant Professor of Social Ecology*

Alexander M. Mood, Ph.D. Princeton University, *Director, Public Policy Research Organization, Professor of Administration and Social Ecology*

Michael W. O'Neill, M.S. Michigan State University, *Lecturer in Social Ecology*

E. Mansell Pattison, M.D. University of Oregon Medical School, *Associate Professor of Psychiatry & Human Behavior, and Social Ecology*

Geraldine G. Sandor, J.D. Boalt Hall School of Law, University of California, Berkeley, *Lecturer in Social Ecology*

Benson Schaffer, J.D. Southwestern University School of Law, *Lecturer in Social Ecology*

Steven J. Simmons, J.D. Harvard University, *Assistant Professor of Social Ecology*

Joseph G. Weis, D. Crim. University of California, Berkeley, *Assistant Professor of Social Ecology*

Carol K. Whalen, Ph.D. University of California, Los Angeles, *Assistant Professor of Social Ecology*

John M. Whiteley, Ed.D. Harvard University, *Associate Professor of Social Ecology*

Eleanor P. Wynne, M.A. University of Washington, M.A. University of Oklahoma, *Lecturer in Social Sciences and Social Ecology, Director of Laboratory Pre-school*

UNDERGRADUATE COURSES IN SOCIAL ECOLOGY

See page 5 for explanatory notes on course listings.

1 Principles of Social Ecology (1) F
Introduction to the ecological paradigm through a consideration of the classic and recent works in human, cultural, and social ecology. Emphasis on the use of the ecological paradigm as an aid in analyzing societal problems and prescribing for their amelioration.

2 Introduction to Mental Health (1) W
A study of mental health as a concept and goal through history, including personality theory, assessment, counseling, psychotherapy and the community mental health movement. Emphasis on informing the student of the history and recent developments in the various mental health specialties and service delivery systems.

3 Introduction to Human Development (1) W
Presents an introduction to basic principles of human development from biological,

psychological and sociological perspectives. An overview of life-span development given and problems characteristic of the various developmental stages discussed.

4 Introduction to Criminal Justice (1) S
Traces our legal system from its common law heritage. An introduction to criminal and constitutional law in the United States provides basis for discussion of our constitutional structure, corrections, probation and parole, and the police activities of arrest, search and seizure, and interrogations. Juvenile Court law and procedure discussed separately.

5 Introduction to Environmental Quality and Health (1) F
A preliminary survey of man's interaction with his physical and biological environments. Components included are: water, air, food, noise, and housing. Included too are elements of environmental administration, environmental education, and consumer protection. International aspects of these factors examined.

6 Fundamentals of Ecology (1) S
An introduction to the basic concepts in ecology: populations, communities, and ecosystems; the nature of diversity, stability, productivity, cycling and succession; resource utilization and modeling; regulatory mechanisms in ecosystems and the ecological and social consequences of their disturbances.

7 Introduction to Planning and Public Policy (1) W
Gives the background necessary to pursue more advanced courses dealing with the analysis of metropolitan areas and the planning process. Objectives: to expose students to the "seminal works" of the social sciences concerned with the city; to describe the models of the city which have been derived from the seminal works; and to demonstrate the nexus between the social science models of the city and the urban policies pursued by the public sector in general and urban planning in particular.

10 Research Design in Social Ecology (1) W, S
An introduction to the logic behind and methods of designing research studies and experiments in Social Ecology. Statistical reasoning discussed to the extent necessary for relevant data analyses. Prerequisite: Social Ecology 1.

11 Methods of Interviewing (1) W
Prepares the Social Ecology major for the development of interviewing skills needed in field study. Various methods discussed as they are tailored to different situations involving exchange of information, e.g., intake, job assessment, child counseling, research.

12 Statistics and Data Analysis (1) S
The use of probability models and statistics as decision-making aids in Social Ecology. Included in discussions are classical methods of inference, Bayesian analysis, and methods appropriate for imperfect data. Prerequisite: Social Ecology 10.

15 Techniques of Behavior Change (1) F
Through lecture and peer-led discussions, students begin to acquire basic skills in observing and measuring human behavior, interviewing, communicating effectively in small groups, and formulating and testing hypotheses about problem behaviors and strategies for change. Emphasis on the uses and abuses of the psychological experiment and the relevance of experimental problem-solving methods for any behavior change project.

16 Community Mental Health (1) W
Deals with the community orientation to the delivery of mental health care. The development of community mental health described and various models for its practice delineated. Techniques of evaluating the efficacy of community programs explored. Prerequisite: Social Ecology 2 or permission of the instructor.

17 Assessment Techniques in Human Development (1) F
Various methods and tools for the assessment of developmental and educational problems described and analyzed. Topics include intelligence and achievement testing, reading and linguistic assessment and the evaluation of learning disabilities.

18 Environmental Assessment: Factors-Affecting Quality and Health (1) F
Study of the methods of environmental assessment aimed at evaluating the impact of pollution, poor housing, disease vectors, occupational health problems and ionizing radiation on the well-being of man. Introduction to methods used in prevention of environmental deterioration and protection of health. Field trips to examine environmental activities related to the topics discussed are conducted. Prerequisite for field study in Environmental Quality and Health.

19 Planning Practice (1) F
Introduction to the operational techniques and procedures common to most public planning agencies and surveys the procedures peculiar to city, county, and regional agencies. Also considered are the variations among states in planning enabling legislation.

20 Abnormal Behavior (1) S
Explores various theoretical perspectives on abnormal behavior, describes major patterns of abnormality, and examines several current controversies in the field. While emphasis is on the description and assessment of abnormal behavior, such issues are most relevant when placed in the context of prevention and treatment. Prerequisite: Social Ecology 2.

21 Methods of Behavior Modification (1) W
A series of presentations of ongoing programs using behavior modification. Behavioral modification techniques are derived from psychological theories of learning and emphasize reinforcement and modeling. The techniques are applied in schools, clinics, homes, and hospitals to modify such behavior as child autism, reading disorders, self-slapping, sexual deviations, alcoholism, attention deficits, adult psychotic disorders, and phobic reactions. They are also used with children who are considered normal but who show minor behavioral problems. Prerequisite: Social Ecology 15.

22A-B Methods of Counseling (1-1) F, W
Explores the methods and techniques of counseling and examines the difference between interviewing, counseling, and therapy, then presents counseling strategies with emphasis placed on educational counseling. Specific cases and the counselor's use of questions, reflections, interpretations, silence, self disclosure, and advisement presented.

23 Methods of Therapeutic Intervention (1) S
Lecture course in the methods of therapeutic intervention. Included are: the therapeutic use of questions, reflection, interpretation, self-disclosure and advice. Emphasizes the identification of conflict and double message statements as a method of problem identification, and will emphasize therapist role changes when shifting from the problem identification phase to the solution phase.

28 Parent-Child Relationships — Intimacy, Conflict, and Rejection (1) W
Examines aspects of the parent-child relationship as they affect the development of personality, and focuses upon the role of disturbed relationships in the genesis of emotional difficulties. Following a brief exploration of the mother-infant alliance, the more complex and subtle parent-child relationships which evolve as the child matures are studied.

29 Early Child Development: Survey of Theory and Research (1) F
Lecture-discussion course surveys theory and research in the normal development of young children (0-6 yrs.). Areas of physical growth, language acquisition and cognitive development, motor coordination, socialization, and personality development are covered in both socio-cultural and individual-psychological contexts.

40A-B Forms of Criminal Behavior (1-1) F, W
"Crime in the streets" and "crime in the suites" have aroused public concern. Political agitation surrounds crimes of violence; reformers demand equivalent sanctions against the white-collar criminal. Examination of the extent and the response to different forms of criminal behavior.

41 The Police (1) F
A social-psychological study of the police. Examines the nature and structure of

police organizations and discusses their relationship to the social environment.

42 Juvenile Delinquency (1) F
An examination of patterns of delinquent behavior, theories of juvenile delinquency, and classic and contemporary research on proscribed behavior among juveniles.

43 Law and Order in Society (1) F
Examines the current public concern for "law and order," the form and meaning of this interest, and its effect on the criminal justice system.

50 Water Quality and Society (1) S
A survey of the chemical, biological, and socio-political aspects of water quality and their implications for our society. Citizen attitudes about the recreational, agricultural, waste disposal, and other aspects of water utilization and consumption. Emphasizes social decision processes which affect the allocation of water resources.

51 Air Quality and Society (1) W
Extensive studies of interactions between man and his environment have established beyond any possible doubt that behavior is very sensitive to changes induced by external environmental factors in the body's internal chemical milieu. Examination of short- and long-term nature of such effects and the mechanisms underlying them, consideration of methods by which the sophistication of our present knowledge may be increased, and assessment of the applicability of our knowledge to public health problems.

52 Environmental Quality and Citizen Action (1) W
A review and analysis of methods used by citizens, both individually and in groups, to enhance and maintain the quality of the physical environment. Case study method used with both historical and contemporary examples. Emphasis on identifying the most effective methods based on those which have been successful in other fields.

70 The Limits to Growth (1) F
An examination of the present predicament of mankind in terms of limited natural resources, industrial growth, population expansion, increasing pollution, and per capita food production. Study of problems involved in equating growth with progress, especially as outlined originally by the Forrester models, and subsequently developed by the Club of Rome and M.I.T.

71 Biological Basis for Social Behavior (1) S
Biological factors form a substantial segment of many of the behavioral problems dealt with by a social ecologist. Examples of behaviors discussed include mental health, overpopulation and resultant pollution, and drug abuse. While lectures stress the role of biological processes in these behaviors, resultant discussions consider the relationship of a social ecologist to those behavioral problems mentioned as well as to additional topics.

79 Biology and Public Policy (1) S
Same as Biological Sciences 81. Lecture, 2 hours; discussion, 1 hour. Relation between biology and biological scientists and the formulation and execution of public policies. Topics such as population, delivery of health care, and pollution. Prerequisite: 1 year of biology, or 1 year of social science, or consent of instructor.

80 Understanding "The System" in Orange County (1) W
Discussion and analysis of how elected and appointed officials, city and county staff, citizens and private enterprise participate in the making of decisions at the county and municipal level. Emphasis on decision making in the fields of criminal justice, community mental health, planning and public policy, and environmental health and quality.

81 Problems of Metropolitan Areas (1) W
Covers a description of the major problems facing metropolitan areas, and of the forces generating those problems. Proposed solutions discussed.

82 The Congress (1) S
The role of Congress as it operates in present day American Society, along with its present day relationship with the people, the President, and with the Supreme Court,

as well as its own operating procedure. Emphasis on how policy and legislation (environmental, civil rights, etc.) is made and how citizens are affected by Congressional elections. Speakers, such as presently serving United States Representatives or Senators, may meet with class.

83 The Public Sector (1) W
Introduction to concepts and principles necessary to understanding the role of the public sector in modern American society, primarily from the perspective of economics; prepares student to assume more advanced course work in policy analysis. Prerequisite: Social Ecology 1.

84 Science and Public Policy (1) F
A seminar exploring "policy for science" (government support of scientific research and higher education in the sciences) and "science for policy" (government acquisition and utilization of scientific inputs in the policy-making process). Special topics include: government organization relating to scientific mechanisms for generating science advice for various levels of government; allocation of resources for support of science and for public policy research; the relationship between science and technology; the nature of the scientific community and of scientific progress; the role of the university in contributing scientific inputs to public policy; trends and problems in the relationship of science and public policy.

85 Science and Ethics (1) S
Same as Social Science 80I. A discussion of ethical problems which arise from man's social and technological development, with emphasis on specific problems, such as population control, organ transplantation, genetic engineering, biological and chemical warfare, nuclear testing, etc. For each topic the focus is on establishing the psychological and sociological determinants of our present moral values.

86 Introductory Social Psychology (1) F
Surveys three basic areas of social psychological research and certain issues of theoretical concern within each: (a) group dynamics; (b) interpersonal processes; and (c) attitude change. The relationship between micro level research and social interventions at the societal level discussed in relation to problems such as media violence, poverty, racial conflict, and environmental degradation.

87 Environmental Psychology (1) F
Impact of the physical environment on individual and group behavior. Three basic concerns examined: (a) environmental determinants of behavior at the individual and interpersonal level; (b) social planning and urban design; and (c) methodological approaches to the study of environmental issues.

100 Ethics of Behavior Modification (1) S
An examination of the ethical issues of using behavior modification to change individual human behaviors. Some of the topics discussed will be voluntary versus involuntary treatment; explicit versus disguised therapist-patient contracts; and deliberate versus nondeliberate conditioning.

100A-B Counseling Theory I and II (1-1) F, W
Theoretical approaches and related counseling techniques examined, including client-centered, rational emotive, transactional analysis, Adlerian, Gestalt, and behavioral counseling. Beginning relationship skills practiced in a laboratory section, using film and audio tapes.

102 Survey of New Therapies (1) F
An overview of such new approaches to counseling, psychotherapy, and facilitation of individual growth as Transactional Analysis, Rational Psychotherapy, Bio-energetics, Gestalt Therapy, Psychotherapy by Computer, and Implosive Therapy. Some effort devoted to the analysis of factors that differentiate between social technologies of lasting import and those of temporary impact.

103A-B Methods of Group Therapy (1-1) F, W
Theories and techniques of small group dynamics and structure reviewed and evaluated. Comparisons made among group methods of leadership development, con-

flict resolution, sensitivity training, social action, growth, and encounter. A laboratory in group experience will be included. Permission of instructor required.

104 Behavioral Assessment (1) W
Laboratory-seminar exploration of various methods of observing and recording the behavior of young children. Focuses on the development of observational skills and the application of assessment techniques in intervention and research programs. Prerequisite: Permission of the instructor.

105 Behavior Therapy and Beyond (1) W
Successful behavior therapy requires a broad spectrum approach which extends beyond simple stimulus-response formulations. Advanced seminar explores innovations in behavioral assessment, cognitive restructuring, role playing, etc. The focus will be on the theory, research, and application of techniques of behavior change which emphasize cognitions and individual differences. Prerequisite: Permission of the instructor.

106A-B Atypical Child Development (1-1) F, W
Childhood psychopathology, assessment strategies, and treatment modalities surveyed. The first quarter focuses on developmental differences, behavior disorders, and mental retardation. The second quarter surveys poverty and minority cultures, minimal brain dysfunction, schizophrenia, child abuse, and child advocacy.

107 Therapies with the Developing Child (1) S
Diverse treatment modalities explored, including traditional and innovative forms of play and family therapy, behavioral approaches, educational intervention, and treatment with psychoactive drugs. Relevant theories, specific techniques, studies of therapeutic outcomes evaluated and compared.

108A-B Behavioral Intervention with Children (1-1) F, W
Each student conducts a behavioral intervention program with a child in a school, hospital, or home setting. Emphasis on in-depth specification, application, and evaluation of the principles and procedures of behavioral change *in practice.* Prerequisites: Social Ecology 104 or permission of the instructor.

109 Behavioral Approaches to Counseling (1) S
Explores in-depth the methods and techniques of counseling, and examines the differences between interviewing, counseling, and therapy. Presents behavioral counseling with emphasis on educational, vocational, and rehabilitation counseling. Specific cases involving reinforcement, social modeling, counter conditioning, and cognitive techniques presented with emphasis on the counselor as consultant rather than as direct interviewer.

110 Behavioral Intervention in the Classroom (1) W
Explores behavioral interventions that can be implemented by teachers or parents with children evidencing behavior problems in the classroom or home. Some interventions covered are those designed to treat hyperactivity, depression, lack of self-confidence, rebellion, cheating, and teacher dependence.

111 Survey of Clinical Psychology (1) S
An overview of the field of clinical psychology including a historical view of the role of the clinician; study of controversial issues in the field (i.e., standards for training, acceptance or rejection of the medical model and diagnosis, the nature of clinical prediction, appropriate use of tests); a survey of diagnostic and therapeutic theory and procedures; evaluation of major clinical practices; discussion of ethics and current trends. Prerequisite: Social Ecology 20 or permission of the instructor.

112 Introductory Counseling Practicum (1) S
Develops counseling skills through simulated and actual counseling experience under supervision. Weekly individual supervision of the counseling practice supplements regular class sessions.

113 Principles of Prevention in Mental Health (1) S
Surveys various theories concerning the prevention of mental illness at three preventative levels: Primary prevention (to reduce the incidence of illness); Secondary preven-

tion (to reduce the duration and extent of illness); and Tertiary prevention (to reduce the debilitating effects of illness).

114 Community Mental Health: Organization and Legislation (1) S
The current structure and function of community agencies explored and related to recent legislation regarding mental illness and mental retardation. Emphasis on the implications of recent legislation and current practices for direct mental health services to selected subcultures such as the poor. Manpower needs and future strategies discussed.

115 Death and Dying in America (1) W
Seminar to explore, primarily by means of student papers, intra- and inter-personal attitudes toward death and dying, and current practices among health and mental health professionals in the management of terminal illness or injury in the American culture.

120 Family Law (1) W
Deals with the practical and theoretical problems of family law, centering around the subject areas of marriage, divorce, adoption, legitimacy, legitimization, child custody, property division, spousal and child support. Class views critically the present system of family law and helps in formulating proposals for change.

121 Man-Woman Relations (1) S
Differing conceptions of the sources of enrichment and enhancement in relations between men and women are studied. Issues affecting partnerships in contemporary society examined as they relate to the process of choosing a partner. Partnership and relationship skills in a communication framework developed in a laboratory section. Prerequisite: Social Ecology 101A-B or permission of instructor.

122 Human Sexuality (1) F
A broad survey of human sexuality encompassing genetic factors, physiological and anatomical development, customary and atypical forms of behavior, reproductive processes, and cultural determinants.

123 Adolescent Development (1) F
An investigation of the biological, psychological, and cultural aspects of human development between the ages of 12 and 18 years. Historical and cross-cultural perspectives will supplement views of contemporary adolescent problems. Prerequisite: A course in child development.

124 Gerontology (1) W
Focuses on human aging from a multidisciplinary perspective. Physiology of aging and its psychological ramifications discussed: sociology of the elderly in contemporary society.

125A-B Youth in Society (1-1) W, S
Examines the role of youth in society. First quarter devoted to the examination of the historical emergence of the status of youth, the development of youth cultures and contemporary counterculture, the structure of adolescent social arrangements, and the participation of youth in social and political change, popular culture, and the economy. Second quarter open to students who wish to pursue specific research related to youth in society.

126A-B-C Child Development I, II, and III (1-1-1) F, W, S
126A: Same as Social Science 152G. Laboratory/lecture course on the growth and development of children ages 2-7 years. Focuses on observing, recording, and understanding the ordinary behavior of children in group situations, and the theory of culture acquisition. 126B: Same as Social Science 152H. Advanced study of growth and development of children. Prerequisite: Child Development I. 126C: Same as Social Science 152I. Infant studies, research, discussions, individual projects in child development.

127A-B-C Creative Learning in Children (1-1-1) F, W, S
Same as Social Science 152A-B-C. Students assist in teaching at and developing materials for Social Science Farm School. The Farm School is ungraded and ages range

from 5-12. Students in any major are eligible. Students should know something like mathematics, biological science, a foreign language, improvisational dance, etc., and care about it.

130 Seminar in Criminal Behavior (1) F
Focuses on a specific aspect of criminal activity, depending upon student and instructor interests. Possible subjects include crimes of violence, sexual offenses, political crimes, property crimes, and professional or organized crime, and are examined in depth, historically, crossculturally, theoretically, and in terms of specific studies of aspects of the behavior. Students expected to prepare reports relating to the chosen topic.

131 Drug Use in America (1) W
A survey of drug use and abuse in the United States. Examines the use of depressants, stimulants, tranquilizers, opiates, psychedelics, and other drugs from many different perspectives, including legal, medical, social, historical, economic, and cultural aspects.

132 Delinquency and Juvenile Justice (1) F
An examination of the relationships among officially defined parameters of delinquent behavior, prevention and control programs, and the administration of juvenile justice. Particular emphasis on theoretical rationales for intervention, the delinquent as recipient of prevention-control efforts, and the roles of different agencies in administering juvenile justice. Introductory course on criminal justice helpful (Social Ecology 4).

133 Juvenile Delinquency and the Schools (1) S
An examination of the role that school experience has in the generation and maintenance of juvenile delinquency. Special attention given to the relationship between organizational structure and ethos and adolescent behavior patterns.

134 Crimes Without Victims (1) F
An examination of four criminal offenses in which there are apt to be no complaining witnesses – homosexuality, abortion, prostitution, and gambling. Implications of the use of criminal law to control these behaviors in terms of the individuals involved in the offenses, other persons, and the society in general are considered, and various alternative social policies are reviewed and evaluated.

135 Police-Community Interaction (1) S
A consideration of the role of police in a democratic society, including issues such as policing the ghetto and campus, corruption, centralization, violence and disruption. Police agencies examined as a part of criminal justice, legal, governmental, and political systems.

137 Criminal Procedure (1) W
Mainly examination of Supreme Court cases and important criminal procedure issues, including search and seizure, arrest, wiretap, stop and frisk, self-incrimination, entrapment, plea bargaining, double jeopardy, cruel and unusual punishment, right to counsel and jury trial. Fourteenth Amendment implications for indigent defendants analyzed. Police and other enforcement personnel invited to speak and answer questions in class on relevant issues.

138 Criminal Trial (1) W
Discussion of the background and evolution of the trial, the roles of the judge, prosecuting and defending attorneys, defendant, and jurors; and a brief outline of the legal processes prior to the trial, the steps necessary in order to put the trial in its proper perspective, and the post-trial process. Includes an analysis of actual criminal trials being held locally, and is basically designed to teach an understanding of the concepts of the criminal trial.

139 Strategies of Control: Imprisonment and Parole (1) W
An examination of historical and contemporary resolutions to the dilemma posed by pressures to punish and control criminals and the need to preserve civil liberties and human dignity, of the politics of control strategies, of the future of imprisonment in a "free" society, of the use and misuse of parole and the indeterminate sentence, and of "alternatives" to incarceration.

140 Prisons, Punishment, and Corrections (1) W
A review of the history and present conditions regarding treatment of law violators. The conflict among rehabilitation, vengeance, and deterrent principles. Analysis of civil rights, racial antagonism, and politicalization in the contemporary American correctional system.

141 Seminar in Criminal Justice (1-1-1) F, W, S
Selected topics in the field of criminal justice examined. Issues vary with the interests of the instructor and students, and include such topics as violent crime, political crimes, police discretion, and civil rights of prison inmates. Prerequisite: Social Ecology 4.

142 White-Collar Crime (1) F
Criminal activity of business and corporate enterprise, both in terms of theoretical insights into the explanations of criminal behavior and in terms of social concerns with deterrence. The pioneering work of Edwin H. Sutherland and the contemporary investigations of Ralph Nader provide substantive background. Specific cases and specific forms of social response to white-collar crime reviewed.

150 Environmental Quality and Governmental Action (1) S
An examination of the concepts and practices involved in formulating and enforcing environmental quality regulations, emphasizing the social impact of governmental actions, and the role of the community in bringing about new changes.

151 Noise Pollution (1)
Same as Social Science 151G. Sound and noise measurement, the auditory system, simple and complex auditory psychophysics, noise pollution. Prerequisite: calculus. (Not offered 1973-74.)

152 Environmental Testing (1) S
Offers practical experience in the use of environmental survey equipment. Theoretical and empirical bases of present environmental standards discussed. Field work conducted to test the quality of the environment in areas of particular interest. Prerequisite: Social Ecology 5 (or equivalent) and the consent of instructor.

153 Housing and Environmental Quality (1) F
Lecture and discussion exploring the diversity and complexity of the problems surrounding housing, housing quality, and environmental control. Special emphasis on developing a background in the fields of planning, urban economics, urban sociology, and other interdisciplinary foundations for a common language to be used in discussions.

154 Environmental Impact Studies (1) W
Covers the new laws requiring the preparation of environmental impact statements before projects are allowed to begin. Conceptual framework and methods of analysis reviewed through case studies.

155 Environmental Education – Human Habitat and Well-being (1) S
Specifically designed for teachers, education majors and those interested in applying an educational approach to the solving of environmental problems. Principles of environmental quality and health outlined. Students participate in developing educational models for action environmental education programs for the schools and the community.

156 The Work Environment (1) W
Introduction to science and art of identification, evaluation, and control of hazards prevailing in the work environment. The physical, chemical, biological, social, and psychological factors affecting man in his working environment and as a member of the community. Required for field studies dealing with the work environment. Prerequisite: Social Ecology 5 (or equivalent) or consent of the instructor.

157 Specific Human Environments (1) F
Discusses the basic environmental health and quality problems characteristic of such health care facilities as hospitals and nursing homes, educational facilities, penal institutions, day care centers, etc., and the societal factors involved.

158 Community Health: An Epidemiological Approach (1) W
An examination of the distribution and dynamics of human health problems on the community level and exploration of the principles and procedures of scientific investigation used to determine circumstances under which diseases occur or health prevails. The broadened scope of epidemiology including environmental, genetic, nutritional and social ramifications, in addition to the classical concern about infectious diseases and their role in social upheavals is surveyed.

159 Consumer Protection: Basis for Social Action (1) W
Explores the interface between man's technological capacities and his existence as a consumer. Emphasis on examining (1) the biological and chemical basis for the citizen's concern about environmental pollutants entering the food chain, e.g., pesticides, heavy metals and biological hazards; (2) the unwholesome practices on the food retail level that mostly affect the middle income and the poor.

160 Man, Food and Nutrition (1) S
Review and analysis of the usage of foods and the nutritional status of man, as indicators of his social ecology, principles of nutrition, the recent food trends in America, such as "health foods," and the effects of malnutrition and hunger on the physical, behavioral, and mental development in man.

161 The Blighted Neighborhood – Strategies for Change (1) W
Reviews philosophical aspects, historical and legislative developments, and analyzes the theories and practices in dealing with the blighted physical environment in light of the dominating socioeconomic, biological, and ethnic factors. Different methods ranging from the "bulldozer's approach" to change through social action evaluated with the purpose of selecting and recommending methods for future applications. National and international trends examined.

162 Environmental Law Research (1) W
Selected projects in environmental law problems undertaken by groups of students from the class. Projects center on library research supplemented by interview, investigating the background and effectiveness of national, state, and local approaches to environmental problems. Government officials and private attorneys who are concerned with the legal protection of the environment will speak.

163A-B Advanced Environmental Health (1-1) F, W
Involves an in depth treatment of the theoretical and applied aspects of the complex relationship of the physical and biological environment to man. Those aspects related to preventive medicine and promotion of public health are emphasized. Principles of preparation of environmental impact studies, environmental health planning, and methods of generating community support for environmental quality programs are examined.

164 Biostatistics (1) S
Lecture and laboratory. Introduction to statistical analysis including discussion of sample size, distribution, test of hypothesis, types of error and significance, and level of confidence. Emphasis on the use of statistics in public health and biological analyses. Prerequisite: Social Ecology 12.

165 Behavioral Science Perspectives on Current Problems in Public Health (1) S
Focuses upon three major issues: (1) the delineation and measurement of psychological, social, and cultural factors in the etiology of disease; (2) analysis of variables which affect the extent of behavioral compliance on the part of individuals with prescribed medical regimens; and (3) identification of factors which influence a community's response to public health programs.

170 Human Evolution (1) F
Three lectures per week survey human evolution from the primate stage to the present. Topics covered include primate, hominoid and hominid evolution, various forms of *Homo,* cultural developments, settlement origins, and society evolution. Emphasis on cultural evolution in terms of environmental influences. Prerequisite: Social Ecology 6 or equivalent.

171 Dynamics of Human Populations (1) F
Focuses on the dynamics of human populations. Topics include natality, mortality, natural increase, in and out migrations, age distribution, life tables, carrying capacities and optimum population levels, fluctuations in and regulation of population densities. Various computer models of population dynamics demonstrated and operated during laboratory periods. Prerequisite: Social Ecology 6 or equivalent.

176 Planning Theory (1) S
Deals with "planning" in the generic sense as well as public sector, and urban planning. Topics include: "Planning – The Ultimate Presumption?," "Planning – The Ideal Context," "Planning vs. Democracy," "Planning – The American Context," "Planning is as Planners Do," and "Is it Better to Have Planned and Lost, Than Never to Have Planned at All."

177 Analysis of Metropolitan Areas (1) S
Hypotheses concerning the nature and problems of metropolitan areas are tested using statistical data. Introduction to the census and other sources of descriptive data useful in understanding public sector attempts to control the dynamics of urbanism. Prerequisite: Social Ecology 7 or Social Ecology 176.

178A-B Design, Organization and Operation of Community Information Centers (1-1) W, S
An exploration of the diverse needs motivating the establishment of community information centers; an assessment of the varied approaches taken in establishing these centers; an assessment of the actual impact of these centers; and a joint effort by the class to design an effective center and to outline appropriate organizational and operational processes for the center. UCI's Student Information Center taken as a case for special attention.

179 The Consumer and the Law (1) S
A brief history of the law relating to consumer remedies and products liability. Detailed analysis of the scope of the problem with special emphasis on the impact this aspect of the law has upon society, the consumer, the manufacturer, and the poor.

180 Constitutional Law: The Warren Court (1) F
A look at major civil liberty decisions of the Warren Court, their significance, and implications for the future. Among the areas covered are desegregation, reapportionment, criminal procedure, and freedom of speech.

183 Attribution Seminar (1) S
Research and theory bearing upon the processes which govern an individual's perception of causal relationships in the environment, the motivation and dispositions of others, as well as his own attitudes, abilities, and emotions, are discussed. Of primary concern are analyses of the attribution process developed by Heider, Kelley, Jones, Schachter, Bem, and Rotter.

184 Seminar on Density and Crowding (1) W
Four basic lines of research on crowding are examined: (a) animal studies, (b) correlational surveys utilizing census tract data, (c) experiments on the human use of space, and (d) experimental studies directly concerned with the effects of crowding on human behavior. In light of this research, the distinction between density and crowding is discussed, with special emphasis upon the interaction of spatial, social, and personal factors in the experience of crowding, and the adaptive vs. maladaptive mechanisms of response to perceived crowding.

185 Alienation (1) S
The continuities and dissimilarities between historical (Marx), sociological (Durkheim, Weber, Merton), philosophical (Sartre, Camus), and psychological (Keniston, Seeman) perspectives on alienation are examined. Conceptualizations of alienation as a dynamic process, *vis-à-vis* a static phenomenon, are considered. Emphasis on the antecedents of alienation deriving from one's physical/social environment, as well as the affective quality and behavioral manifestations of the alienation experience.

190 Mental Health and Criminal Justice (1) F
Focuses on the psychological assumptions which underlie various orientations to the

criminal justice system. The free-will model of man contrasted with deterministic positions. Implications of these assumptions for such issues as the insanity defense, involuntary commitment, incompetence to stand trial and indeterminate sentences explored. Prerequisite: Social Ecology 4 or permission of instructor.

191 Behavior and the Environment (1) S
Deals with the effects of the physical and psychological environment upon human behavior. Topics include the effects of crowding, noise, and toxic air on behavior and well-being. Prerequisites: Social Ecology 2 and Social Ecology 5.

192 Workshop in Administrative Problem-Solving (1-1-1) F, W, S
Interdisciplinary exploration of community interrelationships by means of simulation exercises, based on the APEX program which provides experience in community role-playing and the implementation of community projects. Provides opportunities for a case-orientated approach to the integration of conceptualized environmental knowledge.

193 Seminar in Mental Health and Criminal Justice (1) S
Students who have taken Social Ecology 190 may pursue a research topic in greater depth in this seminar.

195 Seminar in Social Ecology (1) S
Intense interdisciplinary course for Social Ecology seniors which emphasizes the mutual relevance and interactions among Community Mental Health, Criminal Justice, Planning and Public Policy, Human Development, and Environmental Quality. Projects require the student to relate knowledge and techniques from at least two of the Social Ecology subprograms and stress the concept of a Social Ecological Systems approach to solution of social problems.

198 Directed Group Studies on Special Topics (1)

199 Individual Study (1)
Field Studies: Open to upper-division majors ONLY.

197D Community Mental Health (1)
Prerequisites: Social Ecology 15 and 16.

197E Human Development (1)
Prerequisite: Social Ecology 17.

197F Criminal Justice (1)
Prerequisite: Social Ecology 4.

197G Environmental Quality and Health (1)
Prerequisite: Social Ecology 18.

197H Human Ecology (1)
Prerequisite: Social Ecology 6.

197I Planning and Public Policy (1)
Prerequisite: Social Ecology 19.

university studies

Contemporary university faculties are composed of specialists – it is unlikely that they could do their jobs if they were not. But many academic specialists have a particular interest in how their chosen disciplines relate to other academic fields, to contemporary society, and to the broad intellectual and social issues of the day. With respect to any area of specialized study there are basic questions of theory and ethics: there are implications for the future of society and for the future of the discipline itself. It is important that these implications be made explicit and that opportunity be provided within the University curriculum for their study and contemplation. No one should

assume that what he is studying at the moment or what he expects to study as his undergraduate major is unrelated to other disciplines of the academic community. Students should have the opportunity to examine intellectual endeavors other than their own and to learn something of the relevance of these endeavors to their own lives. The courses offered in the University Studies Program have been designed with this goal in mind.

The University Studies Program at Irvine was instituted by a vote of the local Academic Senate in the spring of 1967. It is administered by an organization of Senior Fellows composed of faculty chosen from the various schools making up the Irvine complex. Senior Fellows are appointed by the Chancellor. All courses included in the Program are taught by regular members of the Irvine faculty: they have been introduced into the University curriculum through standard accreditation channels.

Preference for enrollment in the University Studies Program is given to freshmen. Sophomores are admitted if there is room. University Studies courses are not open to juniors and seniors. No more than three University Studies courses can be counted for credit toward the Bachelor's Degree.

SENIOR FELLOWS

Nelson C. Pike, *Professor of Philosophy (Chief Senior Fellow)*
Luci Berkowitz, *Associate Professor of Classics*
Michael L. Burton, *Assistant Professor of Anthropology*
Kenneth W. Dumars, *Associate Professor of Pediatrics*
Louis Gottschalk, *Professor of Psychiatry*
William Holmes, *Professor of Music*
Gary Stephen Lynch, *Assistant Professor of Psychobiology*
Alexei A. Maradudin, *Professor of Physics*
Jay Martin, *Professor of English and Comparative Literature*
H. Colin Slim, *Associate Professor of Music*
Grover C. Stephens, *Professor of Biological Sciences*

COURSES IN UNIVERSITY STUDIES

Courses to be offered in the University Studies Program will be listed in the quarterly "Schedule of Courses." A University Studies brochure listing all courses and a full description of each will be available by the first of September. One course credit (4 units) is granted.

department of physical education

The Department of Physical Education, founded by the late Dr. Wayne H. Crawford, reflects a new approach to the organization of three closely interrelated programs: Physical Education Activity Classes, Intercollegiate Athletics, and Recreation. The department's faculty and professional staff are dedicated to providing each student with the opportunity to participate in a broad program of physical activities, sports, and recreation on a voluntary

basis. Students electing physical education activity classes which include course offerings in ten intercollegiate sports may receive credit towards a degree at the rate of one-sixth of a course per class up to a total of one course credit.

RECREATION

All officially enrolled students of UCI, as well as faculty and staff personnel, are encouraged to participate in the Recreation Program offered by the Physical Education Department.

Intramural sports competition for men and women is designed for those who enjoy friendly, organized competition. Men and women participate in the following sports: flag football, basketball, softball, co-ed innertube water polo, volleyball, racquetball, tennis, badminton, handball, judo, sailing, kickball, soccer, bowling, co-ed swim meet, track and field, cross country, and turkey trot.

Students, faculty, and staff may also join sports clubs for specialized instruction or competition with other schools in a particular activity. The club offerings include women's basketball, scuba diving, fencing, folk dancing, gymnastics, handball, judo, dojo, karate, ice skating, mountaineering, photography, racquetball, rugby, sailing, snow skiing, soccer, surfing, table tennis, co-ed volleyball, men's volleyball, women's volleyball, women's tennis, archery, and badminton.

Free-time recreation is available on a scheduled basis throughout the year. Students, faculty, and staff personnel may utilize the Crawford Hall facilities when they are open and not scheduled for other programs. These facilities are: six indoor handball courts, swimming pool, gymnasium, combatives room, weight room, tennis courts, track, and large grass playing fields.

For further information, please contact the Recreation Office, Room 1328, Crawford Hall or call 833-5346.

Recreation Facilities

Recreational facilities on campus include a gymnasium with activity areas for badminton, basketball, combatives, gymnastics, fencing, volleyball, and weight training; baseball and track stadiums; outdoor basketball and volleyball courts (lighted); indoor 4-wall handball courts; swimming pool; tennis courts (lighted); and expansive playing fields.

INTERCOLLEGIATE ATHLETICS

The Physical Education Department's coaches offer intercollegiate competition in ten sports: Baseball, Basketball, Crew, Cross Country, Golf, Sailing, Swimming, Tennis, Track and Field, and Water Polo. UCI competes in intercollegiate athletics as an independent institution in the college division of the National Collegiate Athletic Association (NCAA). Last year the tennis team won its third consecutive NCAA Championship. The swimming team won NCAA Championship titles in 1969, 1970, and 1971. The sailing team was ranked number one nationally last year. The water polo team won the NCAA Championship in 1970, defeating UCLA in the finals, and last year finished second in the nation. Basketball and baseball have each played in three NCAA

regional playoffs. Irvine's crew and golf teams consistently rank high in intercollegiate competition on the West Coast.

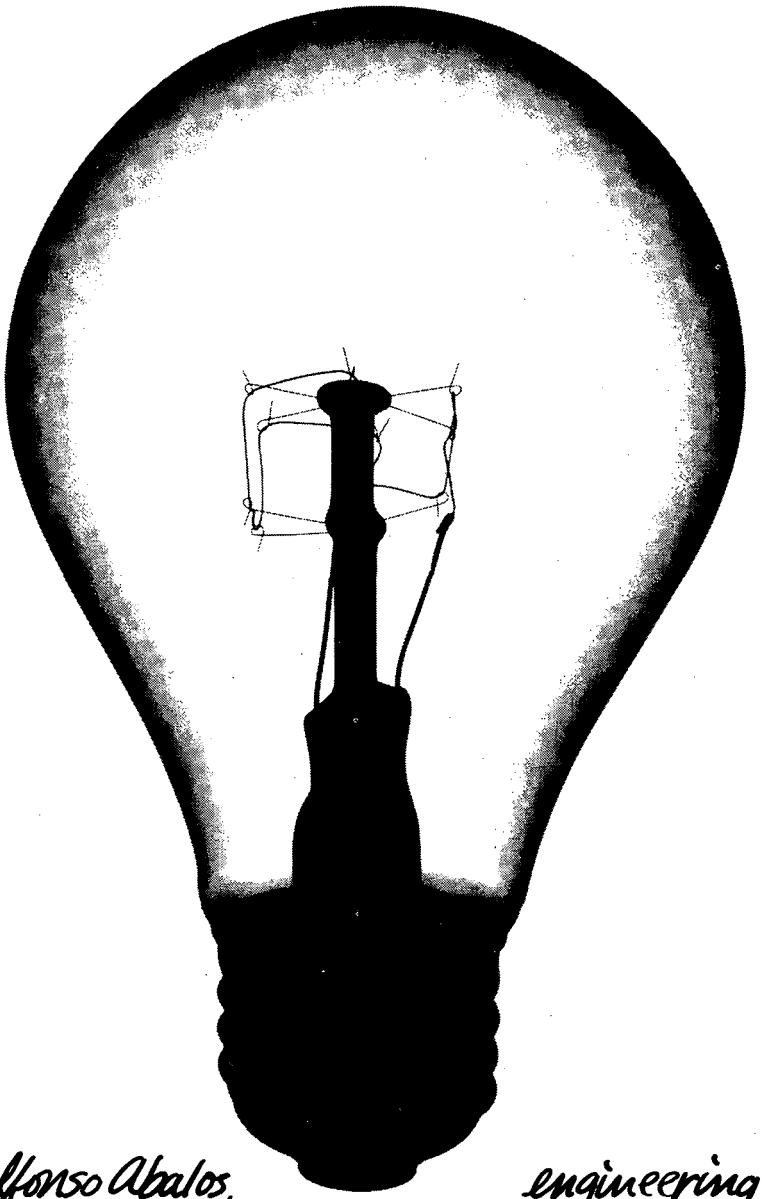
PHYSICAL EDUCATION FACULTY

Raymond H. Thornton, Ph.D. University of Southern California, *Chairman and Director of Athletics*
Gary Adams, M.A. University of California, Los Angeles, *Lecturer in Physical Education*
Thomas Cash, B.A. University of Oregon, *Recreation Sports Director*
Linda B. Dempsay, M.A. University of California, Berkeley, *Lecturer in Physical Education*
Robert G. Ernst, B.A. University of California, Irvine, *Lecturer in Physical Education*
Jerry C. Hulbert, M.A. Chapman College, *Lecturer in Physical Education*
Albert M. Irwin, B.A. College of the Pacific, *Assistant Director of Athletics*
L. Maxwell Lockie, Jr., B.E.E. Syracuse University, *Associate Development Engineer*
Myron C. McNamara, B.A. University of Southern California, *Lecturer in Physical Education*
Edward H. Newland, B.A. Occidental College, *Lecturer in Physical Education*
Michael A. Purcell, B.A. University of California, Irvine, *Lecturer in Physical Education*
Carl H. Reinhart, B.A. University of California, Irvine, *Lecturer in Physical Education*
Richard B. Sweet, B.A. University of California, Santa Barbara, *Lecturer in Physical Education*
Timothy M. Tift, M.A. Pepperdine College, *Lecturer in Physical Education*
William A. Toomey, M.A. Stanford University, *Lecturer in Physical Education*

COURSES IN PHYSICAL EDUCATION

The instructional classes emphasize activities and sports that students may continue throughout their adult life and are of particular interest in Southern California.

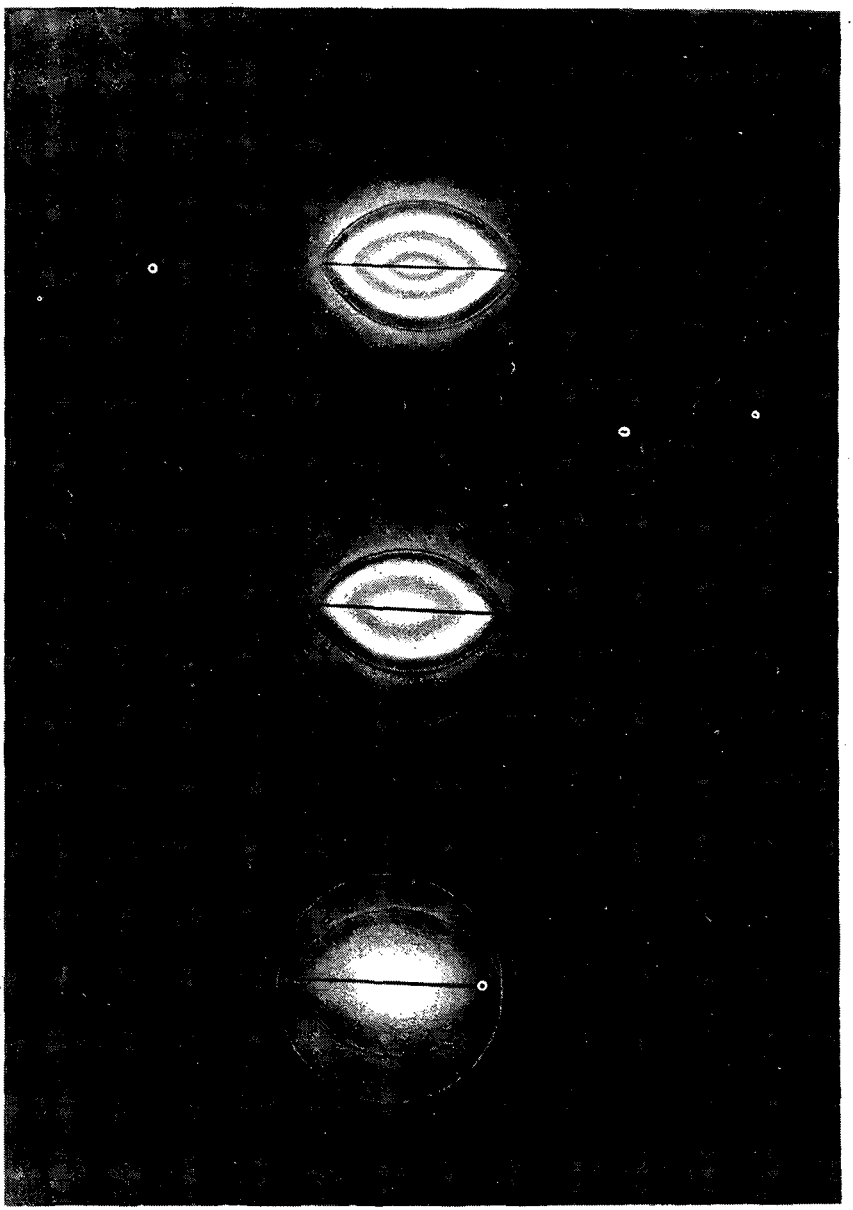
1A-B-C Physical Education (1/6-1/6-1/6) F, W, S
May be repeated. Sections in archery, badminton, baseball, basketball, crew, cross country, equitation and horsemanship, fencing, golf, gymnastics, handball, judo, life saving, sailing, scuba diving, swimming, tennis, track and field, trampoline, volleyball, water polo, water safety instruction, and women's exercise.



Alfonso Abalos, engineering

professional education

UC IRVINE - 1973-1974



physics research project
Dave Romeo, art major

education of teachers

Kenneth P. Bailey
Director of Teacher Education

Due to the enactment in California of the Teacher Preparation and Licensing Law of 1970, the Office of Teacher Education has revised its program for teaching credentials. The new program applies to all students who do not possess a partial credential by September, 1974. Basically this means undergraduate students as of September, 1973, are under the new requirements.

The new teacher preparation and licensing law provides for two types of credentials – a teaching credential and a services credential. For information on the services credential, consult the Office of Teacher Education.

Teaching Credential

The teaching credential consists of four basic kinds:

1. "Single subject instruction" which means the practice of assignment of teachers to specified subject matter courses, as is commonly practiced in California high schools and junior high schools. This credential corresponds in part to the former Standard Secondary Credential. A teacher who is authorized for single subject instruction may be assigned, with his consent, to teach any subject **in his authorized fields,** at any grade level: pre-school, kindergarten; and grades 1-12, inclusive; or in classes organized primarily for adults. UCI is approved for this credential.

Single subject instruction credentials are authorized by the State of California in: Art, business, English, homemaking, industrial arts, languages, mathematics, music, physical education, biological science, physical science, social science; other areas are pending.

2. "Multiple subject instruction" which means the practice of assignment of teachers to multiple subject matter instruction, as is commonly practiced in California elementary schools. This credential corresponds in part to the former Standard Elementary Credential. A teacher who is authorized for multiple subject instruction may be assigned, with his consent, to teach in any self-contained classroom: preschool; kindergarten; and grades 1-12, inclusive; or in classes organized primarily for adults. UCI is approved for this credential.

3. "Specialist instruction" which means any specialty requiring advanced preparation or special competence including reading specialist, specialist in special education, or early childhood education. UCI is approved in certain areas. These are credentials on top of a credential. Consult with a UCI credential counselor.

4. "Designated subjects" which means the practice of assignment of teachers to designated technical, trade, or vocational courses. UCI is not approved in this credential area.

The new credentials authorized by the 1970 law are not determined by grade level (i.e., elementary and secondary) but by the type of instructional situation (multiple or single subject). Each of the new credentials carries K-12 authorization. These credentials are awarded by the Commission for Teacher Preparation and Licensing upon recommendation of the UCI Office of Teacher Education and are required in order to teach or serve in a professional capacity in any public school in California.

No longer does the student prepare for either a secondary or elementary credential. Generally speaking the student who wishes to teach in a junior or senior high school will prepare for the "single subject instruction" credential; the student who wishes to teach in an elementary school will prepare for the "multiple subject instruction" credential, but not necessarily so in either instance.

The minimum requirements for the teaching credential are:

1. A baccalaureate degree or higher degree, except in professional education, from an approved institution.

2. An approved program of professional preparation. This means a sequence of education courses, including an all-day (full-time) assignment of a semester's duration in student teaching.

3. Passage of a subject matter examination or its waiver via an approved academic preparation.

4. Demonstration of a knowledge of the various methods of teaching reading as validated by successful completion of a program of study.

5. A fifth year of study is still required, even though a student may elect to start or complete the approved program of professional preparation as an undergraduate.

Completion of the approved program as an undergraduate at UCI will guarantee admission to the Graduate School (in UCI Teacher Education) for completion of the fifth year requirement. The UCI Teacher Education program defines the fifth year as 45 quarter units of upper-division or graduate-level work taken after the Bachelor's Degree is granted. In each instance the fifth year will consist of a controlled program individually determined, based upon the assessed needs of the student as determined by the student, the Office of Teacher Education, and where applicable, the hiring school district.

No life credential can be issued until all requirements for the credential have been met and the candidate has taught two years in California public schools.

Passage of a Subject Matter Examination

Single subject examinations. Except as waivers are approved, subject matter examinations authorizing single subject instruction are required for all subjects taught in California public schools.

Multiple subject examinations. A general subject matter examination authorizing teaching multiple subjects includes an examination of the candidate's knowledge of the following areas: English, social science, fine arts, science and mathematics.

Teaching Majors and Minors. The Licensing Law of 1970 does not refer to majors or minors. Students desiring to be credentialed in more than one subject area are strongly advised to take sufficient course work to enable them to demonstrate competency in that subject area.

Multiple and Single Subject Credentials

Multiple and Single Subject Credentials are of three types:

1. **The Preliminary Credential** is awarded by the state upon completion of the approved program. This can be done in the undergraduate program and is contingent upon possession of the baccalaureate degree.

2. **The Clear Credential** is awarded by the state upon completion of (1) baccalaureate degree, (2) approved program, and (3) a fifth year.

3. **The Life Credential** is awarded by the state upon completion of all requirements for the Clear Credential plus two years experience as an employed teacher in California public schools.

Pre-requisite and Concurrent Courses

The following work must be completed prior to or concurrent with the approved professional education program:

1. For both single and multiple subject credentials:

   a. Three quarter courses or two semester courses in English, plus Writing 139.

   b. A course dealing with the U.S. Constitution (or an examination over the Constitution).

   c. Participation in two experiences in contact with students in the public school (e.g., tutor, teacher-aide, or some similar experiences). Teacher Education offers course credit for these experiences but so do many departments at UCI (Social Science, Social Ecology, Comparative Culture, Biological Sciences, Mathematics, etc.).

   d. Medicine 300: Health Education for Teachers

2. For the multiple subject credential:

   a. All of the above.

   b. Three approved mathematics courses (or passing a test covering the material).

The Approved Program of Professional Preparation

This program refers to education courses required for the state teaching credential. UCI defines the approved program as consisting of nineteen quarter units, plus student teaching. Six quarter units of this instruction shall be devoted to the teaching of reading.

The professional preparation will contribute effectively to the experience, performance, and excellence of the candidates. The understandings and competencies in each of the required courses are attained through the provision of a wide variety of experiences, designed to be most effective in providing the competency.

Multiple Subject Instruction Credential Program (Elementary)

Education 105A; Education 105LA; Education 110A-B; Education 173; Education 174.

Single Subject Instruction Credential Program

Education 101; Education 102 — The student enrolls in the section of his/her major; Education 105B; Education 105LB; Education 173; Education 174.

These patterns will prevail for all candidates. The primary option will be the status of the candidate (undergraduate or graduate) at entry. The programs are planned for inclusion in the undergraduate degree program.

Field experience, including student teaching, is offered in the regular four-year undergraduate program. UC Irvine is committed to the concept that the student should have a broad range of experiences in the schools and community as a part of any kind of college education. This is true not only in the area of Teacher Education but is a concept shared by most other academic units on the campus. Thus the field experience is relatively easy to achieve for the student preparing to be a teacher. It should be started in the freshman or sophomore year.

The Irvine Teacher Education program requires *two field experiences* prior to entering into student teaching. One such program might be becoming a tutor during the freshman or sophomore year and a teacher's aide in the junior year. There are numerous options for this field experience.

Each field experience program is a cooperative arrangement between the University and the public school districts to help provide UCI students with experience that will prepare them for their future work as teachers. The field experience can come from any one of several academic areas in which students work in public schools under the supervision of an experienced teacher in the school and with a University supervisor. As a tutor, the college student will usually work with the public school student on a one-to-one basis. As a teacher's aide the student will work for a block of time per week for a quarter with a teacher in the classroom. During this time the student will be given a variety of opportunities to help the experienced teacher enrich his/her course of study and to participate within the classroom. Ultimately it is in the classroom where the problems of teaching are either solved or ignored, hence here is where teacher preparation begins.

The concept of the role of a field experience is that it provides the future teacher with an opportunity to have a direct experience in a public school situation. As the future teacher, through repeated contacts, becomes acquainted with the schools and the student, curiosity is aroused and interests hopefully increase. Or the student may realize teaching is not for him/her. This experience will assist the UCI student in making a more realistic vocational choice. It will also involve the public school in the selecting of future student teachers.

The future teachers will be placed in a variety of classroom situations where they can observe and interact with the best possible teaching. It is important to get an indication, as early as possible, of the future teacher's capabilities, based on interaction with children in the classroom.

Observation of the future teacher during the sophomore and junior years, as he/she interacts with children and assumes increasing teaching responsibilities,

can give University and public school personnel valuable clues as to how they can tailor the future teacher's public school experiences during student teaching in order to provide for indicated needs.

Early in the junior year, when it is not too late for the UCI student to change a vocational choice without undue hardship, the University and the student should be in a position to make certain decisions as to whether to continue in the educational sequence.

An additional field experience of one unit value will be required of all students in Education 174 and this involvement must be in a multi-cultural school district.

Provision for a Student Teaching Experience

Multiple Subject Instruction candidates will be assigned in grades K-8. Where possible, the assignment will be split to include two levels within this range.

Single Subject Instruction candidates will be assigned either to a junior or senior high or, if possible, to both.

The student teaching situation requires the student to be in the school the full day the same as the regular teacher, including faculty meetings, parent conferences, and sponsorship of events for a full semester's duration.

It is UCI's responsibility to guarantee that each student will have student teaching experience in a multi-cultural or cross-cultural situation.

There are certain local school districts in which the cross-cultural situation does not exist as we usually understand it in terms of minority peoples. It exists only in an economic sense. In those districts, student teachers will be assigned for a nine-week period in one district and then transferred to a multi-cultural district for the balance of the experience.

All student teachers will be required to have some experience with minority groups and with low-income groups. Because of the make-up of Orange County, some students will change their student teaching assignment at the end of a nine week period. The areas in which we have the biggest numbers of minority students are Santa Ana, Garden Grove, Huntington Beach, and Anaheim. Cross-cultural opportunities in student teaching will be assured in these districts.

There is no concurrent course work required of student teachers in addition to the student teaching. A weekly seminar is held as a part of the total student teaching program.

EDUCATION OF TEACHERS FACULTY

Kenneth P. Bailey, Ph.D. University of California, Los Angeles, *Director of Teacher Education*

Jack R. McCullough, Ph.D. U.S. International University, *Assistant Director of Teacher Education; Supervisor of Teacher Education (Music; Elementary)*

Thelma M. Adenika, Ph.D. Florida State University, *Lecturer in Education and Social Sciences*

Howard A. Appel, M.A. University of Washington, *Supervisor of Teacher Education (Foreign Languages)*

Richard A. Denholm, Ed.D. Western Reserve University, *Supervisor of Teacher Education (Mathematics and Science)*
John A. Dunn, M.A. California State College at Los Angeles, *Supervisor of Teacher Education (Art, Dance, Drama)*
James E. Dunning, Ph.D. Claremont Graduate School, *Lecturer in Education (Social Sciences)*
Fred R. Holland, M.A. University of California at Los Angeles, *Lecturer in Education*
Frances Craig Kenney, M.S. University of Southern California, *Supervisor of Teacher Education (Intern Teachers)*
Robert E. Letro, M.A. California State College at Long Beach, *Supervisor of Teacher Education (History and Social Science, Media)*
Sara W. Lundsteen, Ph.D. University of California, Berkeley, *Lecturer in Education (Social Sciences)*
Rachael C. Mitchell, M.A. Chapman College, *Supervisor of Teacher Education (Reading Specialist)*
Ada L. Nix, *Credential Counselor*
Enriqueta Ramos, M.A. University of California, Irvine, *Special Services Specialist*
Shirley J. Schaefer, Ed.D. California State College at Los Angeles, *Lecturer in Education (Social Sciences)*
Myron Simon, Ed.D. University of Michigan, *Supervisor of Teacher Education (Secondary), Associate Professor of English*
Julie A. Allen, *Educational Placement Advisor*

COURSES IN EDUCATION OF TEACHERS

Either Education 170, 172, or 175 should normally be the first education course in which the student enrolls.

100A Educational Strategies for Tutoring the Bi-Lingual Child (1)
A laboratory on-the-job training course in a one to one situation in tutoring. Includes the developing of cognitive learning with the bi-lingual and bi-cultural child, including regular instruction in teaching strategies.

100B Problems and Theories of Teaching the Bi-Lingual Child (1)
Includes the study of Black and Brown social values, ethnic characteristics, instructional procedures, and practice in the teaching of the bi-lingual child as part of a tutorial program.

100C Cross-Age Helping Techniques (1)
Designed to develop instructional strategies and resources which can be used in cross-age and cross-cultural tutoring.

101 Secondary School Curriculum and Organization (1)
The course relates both to the historical and current practices in curriculum concepts and procedures. Special attention will be directed to curriculum procedures and developments in the student's major and minor.

102 Methods of Teaching in the Secondary School (1)
All sections of 102 are normally completed in the fifth year. A laboratory course covering scope and sequence in instructional program in general and in the student's major and minor in particular. Observing and participating in the secondary classroom are required. This course includes extensive study in educational media: films, filmstrips, overhead presentations, television, the computer, and other educational technology. This course is to be taken in the graduate year immediately prior to supervised teaching or concurrently with it. The student enrolls in the field of his major.

102A Methods of Teaching Foreign Languages in the Secondary Schools (1)
Prerequisites: Linguistics 100 and senior standing as a Foreign Language major.

102B Methods of Teaching History and the Social Sciences in the Secondary Schools (1)
Presents a critical examination of methods and teaching strategies used in developing instructional programs in social science, including "The New Social Science Framework for California."

102C Methods of Teaching English in the Secondary Schools (1)
This methods course is no longer offered in Education but appears as English 398. It is required for the English major.

102D Methods of Teaching Music in the Secondary Schools (1)
Includes the basic concepts of music education and available materials. Develops teaching strategies both for performance oriented curriculum and humanities approaches.

102E Methods of Teaching Art in the Secondary Schools (1)
Theory and understanding of teaching strategies in the high school arts and crafts programs. Works on developing skills appropriate to the high school student. Includes art in the humanities program.

102F Methods of Teaching Mathematics in the Secondary Schools (1)
Theories and understanding of teaching strategies in high school mathematics programs. Particular emphasis is placed upon new mathematics and upon inquiry styles in science.

102G Methods of Teaching Science (1)
Theories and understanding of teaching strategies in high school physical and biological science programs. Particular emphasis is placed upon the inquiry approaches to science.

103 Liberal Arts Mathematics (1)
This course develops for the elementary teacher insights into number systems and other phases of modern mathematics. Included is the theory of the structure, arithmetic, and algebra of the real number system.

104A-B Elementary School Curriculum, Organization, and Methods (1-1)
A laboratory course covering scope and sequence in elementary education, current curriculum and methods in the mandated areas, multi-media materials and techniques, classroom organization, management, control, and evaluation. Two hours per week is required in elementary school observation. 104A covers language, literature, and social science methods. 104B includes detailed laboratory study of methods of teaching arithmetic and science.

104C Curriculum and Methods in the Elementary School: Foreign Language (1)
The audio-lingual method of teaching foreign languages at the elementary level. Examination and development of materials; evaluation; articulation with secondary schools.

104D Methods of Teaching English as a Second Language (1)
This course provides insight into the understanding of the building blocks of English and Spanish and how to fit the blocks together, including psychological phenomena brought into play when the second language is encountered.

104E Curriculum and Methods in Elementary School Art Education (1)

105A Curriculum and Methods in the Elementary School: Reading (1)
Principles and methods of developing instructional programs in reading: participation in schools. This course includes the study of phonics as well as the various methods of teaching reading.

105LA Curriculum and Methods in Reading Laboratory, Elementary (½)
This course is the laboratory program in the public schools, to be taken concurrently with Education 105A. It involves working in reading laboratories and in classroom situations in putting into immediate practice the processes learned in Education 105A.

105B Reading in the Secondary Schools (1)
A study of various reading programs. This course includes four hours per week in laboratory assignment.

105LB Curriculum and Methods in Reading Laboratory, Secondary (½)
This course is the laboratory program in the public schools to be taken concurrently with Education 105B. It will involve working in reading laboratories and in classroom situations in putting into immediate practice the processes learned in Education 105B.

105C Curriculum and Methods in Elementary School: Early Childhood Education (1)
A critical study of the pre-school child, his kindergarten experiences, and his years in in the primary grades. Curriculum and teaching strategies will be the prime content. The laboratory experience will be in the Verano Place Pre-school.

105D Curriculum Methods in Elementary School Music (1)

106A Education of the Pre-School Child (1)
Includes a critical study of the curriculum of the nursery school and the kindergarten, the development of critically significant school programs, based on examination of two campus connected pre-schools, the Verano Place Pre-school and the Social Science Pre-school.

106B Nursery School Curriculum (1)
Examines proper environment provided by the pre-school, child care center, and laboratory schools. Includes work in developing appropriate learning experiences and activities, as well as the study of materials, equipment, and young children's literature.

106C Practicum in Early Childhood Education (1)
Supervised school laboratory experience in schools serving young children. Includes directed teaching in child development laboratories, nursery schools, day-care schools, and similar approved facilities.

107 Children's Literature (1)
The history of all types of children's literature, major authors and illustrators. Includes methods for promoting children's interest in literature and the effect of differential socio-cultural backgrounds upon children's motivation.

110A-B Strategies for the Development of Communication and Thinking Skills for the Elementary Child (1-1)
110A will focus on models of teaching of inquiry (social science), spelling, creative writing, language arts, music, art, and drama. 110B will include methods and demonstrations in the teaching of science, mathematics, health, and physical education. Included in each part will be an emphasis on entry skills for the beginning teacher. The student will be able to demonstrate operational success in five teaching areas: Communication; Pre-Active (planning); Individualizing-Evaluation; Management Tactics (including crisis control); Self-Evaluation.

152G and H Early Childhood Development I and II (1-1)
These courses serve for the Early Childhood Education Credential. See Social Science 152G and H.

170 History of Education (1)
Course covers the development of educational experiences in this country with special reference to educational issues and problems.

171 Psychological Foundations of Education (1)
Covers the learning process, application of psychological principles to the problems of learning and development including that of the minority child. Major topics covered are social interaction, theories of instruction, educational measurement and evaluation, and personality development.

172 Sociological Foundations of Education (1)
Influence of social structure in schools, school systems; American cultural values and their influence on education; particular emphasis is placed on problems of ethnically and culturally different students in schools.

173 Learning Theory and Classroom Practices, Elementary (1)
Combines educational theory with practice. The pertinent content of the course will include: learning theories, enhancing self-image; personal self-realization (motivation), alternate management systems for learning environments, teaching behaviors teachers can utilize in conjunction with a variety of management systems (diagnosis, prescription, instruction treatment, evaluation, interpersonal relations, motivational skills), educational media support system, a study of student failures.

174 Learning Theory and Classroom Practices Laboratory (¼)
This laboratory course is to be concurrent with Education 173. The laboratory experience takes place in a public school or community setting of a bi-cultural nature.

175 Philosophy of Education (1) F
Same as Philosophy 175. Theories of education, past and present. The aims and methods of education. The philosophical assumptions about the nature of man and the nature of human knowledge on which theories of education are based.

180 Special Topics: Curriculum and Methods (1)
This is an advanced course in curriculum and assumes that the student has already completed some phase of curriculum work, either elementary or secondary. It is tutorial in nature.

181 Principles of Curriculum Construction Covering Curriculum K-12, Advanced (1)
This is an advanced course in curriculum. It will study the basis for making public school curriculum decisions; theories, principles, and background for operational techniques for public school curriculum planning; strategies and development of educational programs in general.

183 Elementary Curriculum, K-8 (1)
Emphasis on what is being taught in all areas and at all levels in the elementary school, how it all fits together and what we expect children to know. The state framework, texts, and other materials will be studied and critiqued. A study of the basis for making public school curriculum decisions, theories, principles, and background for operational techniques for public school curriculum planning, notions and development of educational programs in general, liberal, and professional education.

191 Experimentation in Media of Communication and Instruction (1)
Involves future teachers with media resources, techniques, and new teaching strategies in their respective fields. "Media" includes printed materials, audio and visual materials, programmed materials, educational technology, and organized systems of learning.

192 Secondary and Elementary School Administration: Legal and Financial Aspects (1)
This course covers laws regarding children, school procedures, teacher rights and responsibilities, curriculum, and finance. The financial aspect includes budgeting, purchasing, and the many other functions associated with business management. (This course in cooperation with Graduate School of Administration.)

193 Learning Disabilities in the Schools (1)
Definition and nature of learning disabilities; means of recognition, diagnosis, and remediation of learning disabilities as manifested in intermediate and high school students.

194 Organization and Administration of Public Education Systems: Elementary and Secondary (1)
School management covering the organization and administration of elementary and secondary schools. Emphasis is upon administrative-supervisory aspects of curriculum design and planning.

195 Techniques of Personnel Administration (1)
Advanced personnel administration in public education; theories, policies and practices relative to educational personnel, including current research. Exploration in depth of school professional negotiations, recruitment, selection, assignment, in-service training, and classified personnel programs.

197 Individually Arranged Field Study (1)
A planned field study program wherein the student has sufficient background to undertake the field study. The area of study has to be within the competence of the sponsoring faculty member.

198 Directed Course Study on Special Topics (1)
This course consists essentially of a program of laboratory experiences in the public schools set up and conducted for persons who are in advanced levels of teacher preparation.

199 Individual Study (1)
Intensified advanced study in areas in which a student has considerable background under the direction of a faculty member who has competence in the area.

300A-B-C-D-E-F Supervised Teaching in the Elementary School (1-1-1-1-1-1)
Must include 180 clock hours of actual teaching in a course in student teaching.

301 Secondary School Curriculum and Organization (1)
The course relates both to the historical and current practices in curriculum concepts and procedures. Special attention will be directed to curriculum procedures and developments in the student's major and minor.

310A-B-C Intern Teaching in the Elementary School (1-1-1)
Must be a contract intern with a school district and be enrolled in graduate status at the University.

320A-B-C-D-E-F Supervised Teaching in the Secondary School (1-1-1-1-1-1)
Must include 120 clock hours of actual teaching in a course in student teaching. Only two of these courses may be taken concurrently.

330A-B-C Intern Teaching in the Secondary School (1-1-1)
Must be a contract teacher with a school district and be enrolled in graduate status at the University.

360 Synthesis of the Professional Commitment (1)
This course brings together the responsibilities, rights, processes, professional ethics, and commitments of the teaching profession. Included are Stull Bill requirements, professional associations, legal rights and responsibilities, humanistic opportunities in teaching, attitudes, and advocacy in the classroom.

school of engineering

The School of Engineering offers upper-division and graduate programs of study for men and women who will engage in the professional practice of engineering primarily as it relates to design, development, research, and teaching, in industry, government, or a university. Programs at all levels emphasize the fundamentals underlying engineering so as to facilitate future maintenance of engineering competence by either formal or informal study. Thus programs of study in the School of Engineering endeavor to provide UCI graduates with adequate intellectual tools to enter the profession (after a short internship) and also provide for the continued updating of their technological knowledge.

At the undergraduate level a single program in Engineering is offered with options in Civil and Environmental, Electrical, Mechanical, and General Engineering. A multiple major in Environmental Management is also available with the Schools of Biological Sciences and Social Sciences. The Engineering program is designed to maximize the freedom of choice while at the same time being sufficiently structured so as to provide a sound base in Engineering. In general each student will devote approximately 40% of his time over the four years to the scientific and mathematical backgrounds pertaining to the various engineering fields; the purpose of this intense study of the sciences and mathematics is to make sure that graduates are well grounded in the laws and constraints of logic and nature. Another 20% of the program will be assigned to the study of the fine arts, humanities, and the social sciences. The remaining 40% will comprise engineering subjects.

At the graduate level, programs of study become less structured and specialization becomes more intense. The M.S. program requires nine courses to be completed, but the exact choice of the courses will be a matter of negotiation between the student and his faculty advisor. Thesis or non-thesis programs are available, At the Ph.D. level the program is still less structured but more specialized than at the M.S. level. No courses are required; rather, students must demonstrate various competences as they progress toward the completion of their doctoral programs.

Accreditation of engineering programs in the U.S.A. is by the Engineers Council for Professional Development. To date the undergraduate electrical option has been so accredited by the ECPD; accreditation of other options is being sought as they produce graduates.

Uniquely Engineering student organizations are the Dean's Cabinet and the Engineering Society of UCI (ESUCI). All Engineering students are eligible to be members of the Dean's Cabinet. Composed of students representing all academic levels from freshman through graduate, the Cabinet provides a

direct communication link between the students and the Dean. The Cabinet in turn appoints a Committee on Committees which selects students to participate on the committees of the School of Engineering. Whereas the Dean's Cabinet pertains mainly to academic matters, the ESUCI is professional in nature having ties locally and nationally with the engineering profession through its organizations.

All faculty and committee meetings (except those involving personnel considerations) are open meetings; in addition to designated student representatives, all students are encouraged and expected to participate in the development of School policy. Student evaluation of the quality of courses is made annually and both students and alumni make in-depth evaluations of faculty members being considered for promotion or other special actions.

Degrees Offered in the School

Engineering ..... B.S., M.S., Ph.D.

Undergraduate honors at graduation in the School of Engineering are awarded on the basis of a minimum upper-division grade point average of 3.5 for work completed at UCI, service to the School, service to the University, service to the community, or achievement in research projects. Approximately 1% of the graduating class shall be awarded *summa cum laude*, 3% *magna cum laude* and 8% *cum laude* with no more than 12% being awarded honors.

UNDERGRADUATE PROGRAMS

The undergraduate program leads to a B.S. degree with an option in Civil and Environmental Engineering, Electrical Engineering, Mechanical Engineering, General Engineering, or Environmental Management. The program is designed to provide a firm background in the basic sciences, through the required courses in physics, mathematics, biology, and chemistry, and a fundamental understanding of the engineering sciences, through the required engineering courses, as well as some specialization via technical electives. The Civil and Environmental, Electrical, Mechanical, and General options are regulated by Boards of Study composed of appropriate engineering faculty and students. Environmental Management is a 48 course option offered by the School of Engineering jointly with the School of Biological Sciences and the School of Social Sciences. Further information on the Environmental Management option can be obtained from the Student Affairs Office, School of Engineering.

Admission

High school students wishing to begin their engineering programs at UCI should seek admission to the Irvine campus of the University of California designating Engineering as their intended major.

Transfer students are admitted to the School of Engineering upon completion of a lower-division program in another school at Irvine or at another college, including community colleges. Students seeking admission to the School of Engineering from colleges and schools other than UCI must satisfy the University requirements for admisson to advanced standing and must have completed the specific prerequisites for the junior courses to be undertaken in the School of Engineering.

Students meeting the Community College-State College-University compact of 1965 on lower-division requirements may complete the requirements for the B.S. degree in six quarters assuming normal progress.

Upon registration a student will be assigned an engineering advisor who will assist in developing a program of study. The program of study for each *upper-division engineering student* must be approved by the appropriate board of study.

Requirements for the Bachelor's Degree

University Requirements: See page 31. Note, however, that the breadth requirement does not apply to the School of Engineering.

School Requirements

Credit for 45 courses including the following:

Upper-Division Engineering Core: Eight courses — Engineering 100A-B-C, 101A-B, 105, and 106A-B.

Upper-Division Engineering Electives: Seven engineering courses *which must be approved by a board of study for each individual student.*

Upper-Division Technical Electives: Three upper-division courses in engineering, mathematics, physics, chemistry, computer sciences, and/or biological sciences.

Mathematics: Six courses — Math 2A-B-C and 3A-B-C.

Basic Sciences: Eight courses.

Civil and Environmental Option: Eight courses from Physics 5A-B-C-D-E, Chemistry 1A-B-C, or Chemistry 51A-B-C.

Electrical and Mechanical Options: Physics 5A-B-C-D-E and Chemistry 1A-B-C.

General Option: Physics 5A-B-C-D-E and Chemistry 1A-B-C or Biological Sciences 1A-B-C.

Computer Science: One course — ICS 1.

Breadth: Nine courses — lower- and upper-division.

Civil and Environmental Option: Six courses from one of the Schools of Humanities, Social Sciences, or Fine Arts, and three courses from the School of Biological Sciences.

Electrical, Mechanical, and General Options: Six courses from one of the Schools of Humanities, Social Sciences, or Fine Arts, and three courses from another of these Schools.

Free Electives: Any three courses except physical education courses.

Variations from these requirements may be made subject to the approval of the faculty of the school. Students wishing to abrogate these requirements should submit a petition to the School of Engineering, Student Affairs Office.

In addition to the University residence requirement, at least six (6) upper-division engineering courses must be successfully completed at UCI.

Programs of Study

Students are free to follow any schedule of courses in the program they feel is meaningful to them, but they should complete the requisite physics and mathematics for admission to junior courses in engineering and meet the graduation requirements of the School of Engineering at the end of their allotted collegiate period. Normally a student will wish to complete the science requirements, the digital computing course (Information and Computer Science 1), and some of the courses required in fine arts, humanities, and social sciences in the freshman and sophomore years.

Suggested Programs

Typical course programs for the engineering options are shown below.

Lower-Division: All Options except Environmental Management

	FALL	WINTER	SPRING
FRESHMAN	Math 2A	Math 2B	Math 2C
	Chem. 1A	Chem. 1B	Chem. 1C
	ICS 1	Physics 5A	Physics 5B
	HSSFA elective[a]	HSSFA elective[a]	HSSFA elective[a]
SOPHOMORE	Math 3A	Math 3B	Math 3C
	Physics 5C	Physics 5D	Physics 5E
	HSSFA elective[a, b]	HSSFA elective[a, b]	HSSFA elective[a, b]
	Free elective	Free elective	Free elective

[a]Humanities, social sciences, fine arts elective

[b]Students in Civil and Environmental Engineering may wish to take Biological Sciences 101E-B-C.

Upper-Division: Options listed separately below

Civil and Environmental Engineering

Junior Year: Engineering 100A-B-C, 101A-B-C, 105, 161, 163, 164A.

Senior Year: Engineering 106A-B, 150A-B, 155, three technical electives, three HSSFA electives.

Electrical Engineering

Junior Year: Engineering 100A-B-C, 101A-B-D, 102, 105, 107, one HSSFA elective.

Senior Year: Engineering 106A-B, 186, three electrical engineering electives[c], three technical electives, two HSSFA electives.

[c]Electrical engineering electives are Engineering 110A, 111A, 114A, 119A, 122, 128, 135A, 137, 140A.

Mechanical Engineering

Junior Year: Engineering 100A-B-C, 101A-B, 101C or 101D, 105, 171, 173, one HSSFA elective.

Senior Year: Egr. 106A-B, 140A, 147, 150A, 155, three technical electives, two HSSFA electives.

General Engineering

Junior Year: Engineering 100A-B-C, 101A-B, 101C or 101D, 105, two engineering electives[d], one HSSFA elective.

Senior Year: Engineering 106A-B, four engineering electives[d], three technical electives, two HSSFA electives.

[d]Any non-core engineering course is an engineering elective.

Students in the School of Engineering should bear in mind the general campus policy which permits them to take courses in areas outside their major, or outside their school, on a "Pass/Not Pass" basis. With respect to programs in engineering, such areas are fine arts, humanities, and social sciences and any course not being submitted as fulfilling the graduation requirements.

Programs of study in the School of Engineering are tailor-made to the desires and objectives of individual students. Students will work out suitable programs of study with their faculty advisors. Students must realize that they alone are responsible for the planning of their own programs and for satisfactory completion of the graduation requirements. However, the faculty stand ready to give every assistance and necessary advice in the planning of programs. A student may substitute courses of his choosing for those required if he can substantiate the merits of his academic plan and obtain the approval of the faculty of the School.

Three-Two Program

In addition to the options discussed above, outstanding UCI undergraduate engineering students may enter a cooperative "three-two" program with the Graduate School of Administration. Students in this program will complete their first three years in the School of Engineering and the final two years jointly in the School of Engineering and the Graduate School of Administration. Successful completion of the requirements in this program leads to a B.S. degree in Engineering and a Master's degree in Administration. Students wishing to enter a three-two program should consult with both the School of Engineering and the Graduate School of Administration prior to, or early in, the junior year.

Proficiency Examinations

A student who thinks himself sufficiently proficient in the subject matter underlying a specific course in the School of Engineering to receive credit without formal enrollment in that course may consult with the instructor of that course to explore what he must do to demonstrate his proficiency and gain credit. Normally, his ability will be demonstrated by a written or oral examination; if a portion of his capability involves laboratory exercises, he may be required to perform experiments as well as to take a written examination. Normally, these examinations (written, oral, or laboratory) will be given at the opening of each quarter in which the specified course is offered. All courses in the School are available for such proficiency demonstrations.

GRADUATE PROGRAMS

Graduate study in the School of Engineering permits specialization in a particular area while at the same time developing breadth. Graduate study toward the M.S. and Ph.D. degrees is applied science oriented and will provide

an excellent base for future professional growth through understanding of the basic phenomena associated with the student's chosen field.

Admission

Admission to graduate standing in the School of Engineering is generally accorded those possessing a B.S. degree in engineering or an allied field obtained with an acceptable level of scholarship from an institution of recognized standing. Those seeking admission without the requisite scholarship record may, in some cases, undertake remedial work; if completed at the stipulated academic level, they will be admitted to full graduate standing. Those who are admitted from an allied field who have an inadequate background in engineering subjects will be required to show their proficiency in the material contained in the upper-division engineering core courses. The aptitude section of the Graduate Record Examination is required.

Master of Science in Engineering

Those wishing to pursue graduate work in the area of electrical engineering will find programs in control systems, optimization theory, operations research, communication and information theory, pattern recognition, optical systems, and quantum electronics. In the environmental engineering area there are programs in water quality, hydraulics, hydrology, air pollution, and environmental management.

For the M.S. degree with thesis, nine courses are required, of which at least six are graduate level courses; a maximum of two research courses may be submitted. For the M.S. degree without thesis nine courses will be required, of which at least six are graduate level and may not include research credit. The M.S. thesis must demonstrate the student's capability of undertaking an original study and carrying it through to a conclusion satisfactory to at least three members of the faculty. For those students electing to study for the M.S. without thesis, a comprehensive exercise demonstrating familiarity with a broad aspect of the field of engineering in which they are majoring will be required. The detailed program of study is worked out with an advisor who takes into consideration the objectives of the candidate, his preparation, and the specific and implied requirements of the School.

Part-Time Study

Those students who are employed may pursue the M.S. degree on a part-time basis. If employed full time, they will generally be limited to one course per quarter. Those employed part time, including research and teaching assistants, will generally be limited to less than the three course full-time load. Engineers in industry may find it convenient to complete some courses through University Extension. Upon petition to the School, up to three courses taken in University Extension, on another campus of the University, or in another accredited university will be credited toward the M.S. degree upon admission. Upon petition to the School, courses taken through University Extension or at another campus of the University will be accorded full credit if taken after admission to UCI. The student is reminded that University residence requirements necessitate the taking of a minimum of one course in graduate or upper-division work in each of at least three regular University quarters. During these quarters the full registration fee is required of the students regardless of the number of courses taken. M.S. programs must be completed in four calendar years from the date of admission.

Doctor of Philosophy in Engineering

The doctoral program in engineering leading to the Ph.D. is tailored to the individual needs and background of the student. There are no specific course requirements but rather several milestones to be passed: admission to the Ph.D. program by the Faculty of the School; passage of the preliminary examination assessing the student's background and his potential for success in the doctoral program; satisfaction of the teaching requirements required of all doctoral students; research preparation; and completion of a significant research investigation. The degree is granted upon the recommendation of the Doctoral Committee and the Dean of the Graduate Division. For at least the final two years of the doctoral program it is expected that the student will be a full-time resident in the School. Doctoral programs must be completed in seven calendar years from the date of admission.

Some financial aids such as research and teaching assistantships are available so that each doctoral student, after he has passed the preliminary examination, will have a staff appointment in the School of Engineering for at least one year.

SCHOOL OF ENGINEERING FACULTY

Robert M. Saunders, Dr. Eng. Tokyo Institute of Technology, *Professor of Electrical Engineering*

Allen R. Stubberud, Ph.D. University of California, Los Angeles, *Professor of Electrical Engineering and Associate Dean, School of Engineering*

Paul D. Arthur, Ph.D. California Institute of Technology, *Professor of Mechanical Engineering*

Casper W. Barnes, Jr., Ph.D. Stanford University, *Professor of Electrical Engineering*

Neil J. Bershad, Ph.D. Rensselaer Polytechnic Institute, *Associate Professor of Electrical Engineering*

Ralph B. Conn, M.S. University of Southern California, *Lecturer in Electrical Engineering*

David J. Farber, M.S. Stevens Institute, *Associate Professor of Information and Computer Science and Electrical Engineering*

Hideya Gamo, D.Sc. University of Tokyo, *Professor of Electrical Engineering*

Thomas P. Hamilton, M.D. University of Buffalo, *Lecturer in Environmental Engineering*

Albert S. Jackson, Ph.D. Cornell University, *Lecturer in Electrical Engineering*

Robert C.K. Lee, Sc.D. Massachusetts Institute of Technology, *Associate Professor of Mechanical Engineering*

James S. Meditch, Ph.D. Purdue University, *Professor of Electrical Engineering*

Basil Mikhalkin, Ph.D. University of Southern California, *Lecturer in Environmental Engineering*

Lester Mintzer, M.S. Ohio State University, *Lecturer in Electrical Engineering*

Lawrence J. Muzio, Ph.D. University of California, Berkeley, *Lecturer in Mechanical Engineering*

Theodore Nieh, Ph.D. University of California, Los Angeles, *Lecturer in Electrical Engineering*

Charles G. Pardoen, Ph.D. Stanford University, *Assistant Professor of Civil Engineering*

John G. Rau, M.A. University of Washington, *Lecturer in Electrical Engineering*

G. Scott Samuelsen, Ph.D. University of California, Berkeley, *Assistant Professor of Mechanical Engineering*

Jan Scherfig, Ph.D. University of California, Berkeley, *Associate Professor of Civil Engineering*

Roland Schinzinger, Ph.D. University of California, Berkeley, *Associate Professor of Electrical Engineering*

Jack Sklansky, D.Sc. Columbia University, *Professor of Electrical Engineering and Information and Computer Science*

Graham O. Smith, M. Pl. University of Southern California, *Lecturer in Environmental Engineering*

Thomas D. Taylor, Ph.D. University of California, Berkeley, *Lecturer in Environmental Engineering*

George M. Wesner, Ph.D. University of Colorado, *Lecturer in Environmental Engineering*

John E. Williamson, B.E., Ch.E. University of Southern California, *Lecturer in Environmental Engineering*

David C. Wooten, Ph.D. California Institute of Technology, *Lecturer in Environmental Engineering*

Rainer Zuleeg, Dr. Eng. Tohoku University, *Lecturer in Electrical Engineering*

UNDERGRADUATE COURSES IN ENGINEERING

See page 5 for explanatory notes on course listings.

100A Lumped Parameter Analysis (1) F
Lecture, three hours; discussion, one hour. Analytical methods for systems which can be described by ordinary differential equations. Basic mathematical modeling techniques. Laplace transform methods. Prerequisites: ICS 1 (may be taken concurrently), Physics 5A, Math 3C.

100B Engineering Mechanics (1) W
Lecture, three hours; discussion, one hour. Rigid body dynamics, momentum and energy principles; modeling and analysis of mechanical systems. Prerequisite: Engineering 100A.

100C Network Analysis (1) S
Lecture, three hours; discussion, one hour. Modeling and analysis of electrical networks. Frequency and transient response of circuits. Prerequisites: Physics 5C, Engineering 100A.

101A Introduction to Thermodynamics (1) F
Lecture, three hours; discussion, one hour. Development of thermodynamic principles and analyses of open and closed systems representative of engineering problems. Prerequisites: Physics 5B, Math 2C.

101B Introduction to Fluid Mechanics (1) W
Lecture, three hours; discussion, one hour. Fluid statics, control-volume analysis of mass, momentum and energy flow, differential equations of fluid flow. Prerequisites: Physics 5B, Math 3C.

101C Introduction to Boundary Value Problems (1) S
Lecture, three hours; discussion, one hour. Potential, diffusion and wave phenomena studied as boundary-value problems. Analytical and numerical methods of solving boundary-value problems. Fourier series. Numerical relaxation methods. Prerequisites: Physics 5D, Math 3C, ICS 1.

101D Engineering Electromagnetics (1) S
Lecture, three hours; laboratory, two hours. Electromagnetic fields and solutions of

electromagnetic field problems in engineering applications: Dielectric constant and magnetic susceptibility, impedance, reflection and refraction of plane waves, transmission line and guided waves, resonance cavities and radiation. Prerequisite: Physics 5C, Math 3C.

102 Signal Theory (1) S
Lecture, three hours; laboratory, two hours. Representation of signals: Fourier series, Fourier and Laplace transforms, orthogonal representations. Convolution integral, sampling theory, introductory communication theory, amplitude and phase modulation and demodulation, signal correlation. Prerequisite: Engineering 100A.

105 Engineering Methods: Experiment and Analysis (1) F
Lecture, two hours; laboratory, three hours. Experimental methods including instrumentation, measurements, simulation, modeling, and data analysis. Prerequisites: Engineering 100A and Engineering 101A (may be taken concurrently).

106A-B Engineering Methods: Design (1-1) W, S
Lecture, two hours; laboratory, three hours. Design methods and design projects conducted with faculty in option area. Prerequisites: Engineering 100C, Engineering 101C or Engineering 101D, Engineering 105.

107 Electrical Materials (1) W
Lecture, three hours; laboratory, two hours. Properties of materials in electrical and electronic engineering: electron emission, electric conductor, semiconductor, thermoelectricity, magnetic materials, super-conducting materials, dielectric materials and optical properties. Prerequisite: Physics 5E.

110A-B-C Electronics (1-1-1) F, W, S
Lecture, three hours; laboratory, three hours. Application of semiconductor devices. Design of amplifiers and digital switching circuits. Use of linear and digital integrated circuits. Prerequisite: Physics 5D.

111A-B Analysis and Design of Electrical Circuits (1-1) F, W
Lecture, four hours. Analysis and design of active and passive electrical circuits. Topology, network theorems, sensitivity considerations. Classical synthesis and computer-aided techniques for two, three, and four terminal networks. Prerequisite: Engineering 100C.

112 Semiconductor Technology (1) S
Lecture, three hours; laboratory, two hours. Crystal growth, liquid and gaseous epitaxy; doping by gaseous diffusion, alloying and ion implant; oxide growth; photoresist technique; contact and junction preparation; measurements of conductivity, Hall effect, minority carrier life time, and surface state density, including laboratory work and application to device design. Prerequisites: Physics 5E, Chemistry 1C.

114A Fundamentals of Physical Electronics (1) F
Lecture, three hours; discussion, one hour. Material science with emphasis on semiconductors; crystal lattices, lattice defects and impurities, electronic energy states, electron distribution in thermal equilibrium and under external perturbations.

114B Semiconductor Devices (1) W
Lecture, four hours. Semiconductor devices: Schottky barrier and p-n junction capacitors, electro-optical modulators, junction-field effect transistors, insulated gate field effect transistors, charge coupled devices and semiconducting memories. Prerequisite: Engineering 114A.

116 Engineering Economy (1) F
Lecture, four hours. Economic analysis of engineering projects and alternatives; utility and decisions; time cost of money. Long range planning in the private and public sectors. Optimal resource allocation. Case studies.

118A Deterministic Models in Operations Research (1) W
Lecture, four hours; discussion, one hour. Optimization of deterministic systems. Formulation of models and applications. Linear programming and extensions. Quadratic and nonlinear programming. Multistage processes and dynamic programming. Computational methods. Prerequisite: Math 3C.

118B Stochastic Models in Operations Research (1) S
Lecture, four hours; discussion, one hour. Optimization of stochastic systems. Formulation and application of stochastic programming and probabilistic dynamic programming. Markov chains and queueing theory. Inventory models. Prerequisites: Engineering 118A, Engineering 186.

119A-B Power System Engineering (1-1) W, S
Lecture, four hours; laboratory, two hours. Generation, transmission and use of electrical energy. Stability, reliability, economics, and optimal load flow. Prerequisites: Engineering 100C, Engineering 101D.

122 Logic and Organization of Digital Computers (1) F
Lecture, four hours. Digital computer organization. Information-processing algorithms; formal representation of digital systems; logic components, building blocks, internal algorithms, and programming systems. Prerequisite: ICS 1.

124A-B Introduction to Information Machines (1-1) W, S
Lecture, four hours. Switching circuits for computers, representations (codes, geometric forms); implementation (switching networks, storage elements), and digital systems. Characteristics of combinatorial and sequential networks.

128 Communication Systems (1) F
Lecture, four hours; laboratory, two hours. A non-probabilistic introduction to analog and digital communication systems. Analog modulation and demodulation techniques. Digital signaling techniques (PCM) using pulse position, pulse-width and pulse-rate schemes. Prerequisite: Engineering 100C.

135A-B-C Electromechanics (1-1-1) F, W, S
Lecture (partially given via audio tape), three hours; laboratory, three hours. Theory and behavior of electromechanical devices used in systems of electrical power, conversion of power between electrical and mechanical systems, and as information processing devices. Prerequisites: For Engineering 135A, Engineering 101C or 101D; for Engineering 135B and 135C, Engineering 135A. Note that 135B is not a prerequisite for 135C.

136 Microwave Electronics (1) S
Lecture, four hours. Microwave theories of waveguides, resonant cavities and the interaction between electromagnetic fields and charges. Applications to microwave electron beam and semiconductor devices. Prerequisite: Engineering 101D. Offered in 1974-75.

137 Engineering Electrodynamics (1) F
Lecture, three hours; laboratory, two hours. Time varying electromagnetic fields including waveguides, resonant cavities, and radiating systems. Motion of charged particles in electromagnetic fields, radiation by moving charges. Scattering and dispersion.

138 Optical Electronics (1) W
Lecture, three hours; laboratory, two hours. Lasers and related optical devices and systems: Spontaneous and stimulated emission, optical spectra, optical resonators, laser oscillation, specific laser systems, dispersion and nonlinear processes in laser medium, crystal optics, modulation, isolator, optical harmonic generation, optical detection and related noise problems.

139 Laser Technology (1) S
Lecture, three hours; laboratory, two hours. Technology pertinent to lasers and related optical devices and applications. Laboratory work on lasers, interference, modulation, transmission, detection, holography, and spectroscopy.

140A Introduction to Control Systems (1) F
Lecture, four hours; laboratory, two hours. Feedback control systems. Modeling, stability, and system specifications. Root locus, Bode, Nichols, and state-space methods of analysis and design. Associated laboratory. Prerequisite: Engineering 100C.

140B Sampled-Data and Digital Control Systems (1) W
Lecture, four hours; laboratory, two hours. Analysis and design of sampled-data and digital control systems. Sampling process and theory of digital signals; z-transforms and modeling; stability; z-plane, frequency response and state-space techniques of digital control system synthesis. Associated laboratory. Prerequisite: Engineering 140A.

143A-B-C Simulation and Computation (1-1-1) F, W, S
Lecture, four hours. Computers for modeling engineering systems and for simulation experimentation in systems engineering and operations research. Analog, digital and hybrid simulation systems, software and applications. Error analysis for analog, digital, and hybrid simulations. Prerequisite: Engineering 100C.

145 Engineering Statistics (1) S
Lecture, four hours. Introduction to statistical inference; point estimators, bias, sufficiency, consistency; interval estimators, confidence intervals; hypothesis testing, simple and composite hypotheses, likelihood ratio tests; regression; nonparametric methods; sequential tests; applications to engineering problems. Prerequisite: Engineering 186.

146 Orbital Mechanics (1) W
Lecture, four hours. The concepts and techniques of celestial mechanics as applied to space vehicle orbits. Atmospheric entry.

147 Advanced Dynamics (1) S
Lecture, three hours. Rigid body dynamics. Nonorthogonal coordinates. Advanced methods in dynamics, generalized coordinates, Lagranges equation. Analysis of complex dynamical systems. Oscillations. Prerequisite: Engineering 100B.

150A-B-C Structural Mechanics (1-1-1) F, W, S
Lecture, four hours; laboratory, three hours. Analysis of beams, columns, trusses, and rigid frames. Design of steel and reinforced concrete structures. Ideal truss analysis, shearing force and bending moments for beams, deflection (due to axial, bending, shearing, and torsional deformations), statically indeterminate structures.

151 Soil Mechanics (1) F
Lecture, three hours; laboratory, three hours. Mechanics of soils, composition and classification of soils, compaction, compressibility and consolidation, shear strength, shear tests, seepage, bearing capacity, lateral earth pressure, footing design, retaining walls, piles. Prerequisite: Junior or senior standing in Engineering.

155 Fluid Mechanics (1) F
Lecture, three hours; laboratory, three hours. Fluid mechanics with emphasis on incompressible fluids. Fundamental equations and conservation relations, stresses in fluids, similitude, potential flows, turbulence, laminar and turbulent boundary layers, creeping motion, separation, wakes. Applications to pipe flow, open channel flow, and hydraulic models. Prerequisite: Engineering 101B.

156 Compressible Flow (1) S
Lecture, four hours. Compressible effects in fluid mechanics. Isentropic inviscid flow. Channel, Fanno, and Rayleigh flows. Acoustics, shock waves, linearized supersonic flow, nozzles and diffusers. Prerequisite: Engineering 101B.

161 Introduction to Environmental Engineering (1) F
Lecture, four hours. Basic principles of population growth, meteorology, hydrologic cycle, components of water and waste systems, air and water quality, and public health in relation to environmental planning and pollution control.

162A Water and Waste Systems (1) W
Lecture, four hours; discussion, one hour; laboratory, three hours. Hydrology and fluid mechanics of water and wastewater collection and transmission systems. Prerequisites: Engineering 155, Engineering 161. Offered in 1974-75.

162K Physical Chemical Waste Treatment Process Design (1) S
Lecture, four hours. The design of physical chemical treatment processes, emphasis on process dynamics and reactor engineering. Application of mass transport and

kinetics, coagulation and flocculation, absorption, ion exchange.

163 Water Pollution and Control (1) S
Lecture, four hours; discussion, one hour. Chemical and biological aspects of water, water supply, wastewater treatment, and solid waste management.

164A Air Pollution (1) W
Lecture, four hours; laboratory, three hours. The formation, sources, control, effects and social considerations of air pollution and control.

164K Air Pollution Control Technology (1) S
Lecture, three hours; laboratory, three hours. Control of air pollutant emissions from sources by modification of the combustion process and application of post combustion pollutant control technology. Monitoring of source emissions and ambient air quality. Control strategy on a regional basis. Prerequisites: Engineering 164A, Engineering 165.

165 Environmental Engineering Aspects of Physical Chemistry and Thermodynamics (1) W
Lecture, four hours; laboratory, three hours. An introductory course for science and engineering majors in the application of chemical and thermodynamical principles to the solution of environmental problems with emphasis on air and water pollution. Prerequisite: Senior standing.

166 Public Health Aspects of Environmental Engineering (1) S
Lecture, four hours; laboratory, three hours. Introduction to the principles of public health protection and design of environmental protection systems. The systems include water, air, noise, and industrial hygiene.

167 Methods of Desalination (1) S
Lecture, three hours; laboratory, three hours. Desalination technology and advantages and disadvantages, economics and energy requirements. Optimization of desalination plants. Laboratory experiments will include electrodialysis, reverse osmosis and distillation.

168A-B Socio-Political, Economic and Legalistic Aspects of Environmental Engineering (½-1) W, S
Lecture, two hours; laboratory, three hours. The salient characteristics of individual environmental problem areas and the administrative socio-political aspects of their solution; the interrelations of these problems and of mechanisms for their control; comprehensive environmental management. Laboratory role: simulation, computer gaming exercise to environmental management. 168B not offered in 1974.

169 Principles of Noise and Noise Control (1) W
Lecture, four hours; laboratory, three hours. Introduction to the fundamentals of sound generation and propagation, sources of noise, noise measurement, the effects of noise upon man, legal and economic aspects of noise control, and noise control in architecture.

170 Statistical Thermodynamics (1) W
Lecture, four hours. Classical and quantum mechanical descriptions of substances and evaluation of thermodynamic properties of gases, liquids and solids. Elementary kinetic theory of gases and evaluation of transport coefficients. Prerequisites: Physics 5E, Math 3C. Offered in 1974-75.

171 Heat and Mass Transfer (1) S
Lecture, four hours. Transport of mass and heat in both steady and unsteady flow systems, including mass diffusion and heat transfer in laminar and turbulent flow.

172 Nuclear Power Generation (1) S
Lecture, four hours. Fundamentals of nuclear power generation and consideration of environmental effects. Offered in 1974-75.

173 Applied Engineering Thermodynamics (1) W
Lecture, four hours. Thermodynamic principles involved in systems and processes representative of mechanical, civil and environmental, and electrical engineering problems. Prerequisite: Engineering 101A.

175 Transportation and Traffic Engineering (1) W
Lecture, four hours. Systems analysis of transportation modes; interaction between transportation systems and land use planning; design of streets and highways including access facilities, controls; traffic flow theory. Prerequisite: Junior standing.

180 Biological Information Processing (1) F
Lecture, four hours. Interdisciplinary course in living systems. From the union of sperm with ovum, through hormonal communication, to a heavy emphasis on neuronal nets. Applications of signal communication theory, set theory, information theory, and pattern recognition models to these biological processes. Prerequisite: Math 2C. Offered in 1974-75.

185A Introduction to Engineering Analysis (1) F
Lecture, three hours; laboratory, three hours. Basic principles of engineering analysis with emphasis on differential equations – computer laboratory included.

185K Numerical Analysis for Scientists and Engineers (1) S
Lecture, three hours. Computer aided numerical solution of problems occurring in practice with application in various engineering disciplines. Use of the computer for solving individual problems. Prerequisite: Junior standing.

186 Engineering Probability (1) F
Lecture, four hours. Sets and set operations; nature of probability, sample space, fields of events, probability measures; conditional probability, independence, random variables, distribution functions, density functions, conditional distributions and densities; moments, characteristic functions; random sequences, independent and Markov sequences. Prerequisite: Engineering 100A or Math 3C (may be taken concurrently).

187 Random Processes and Systems Theory (1) W
Lecture, four hours. Application of the theory of random processes to the analysis of the response of linear systems, linear mean-square optimization, the orthogonality principle and Wiener-Hopf theory. Prerequisite: Engineering 186.

188 Random Processes in Nonlinear Systems (1) S
Lecture, four hours. The application of diffusion theory to the representation and determination of the output processes of systems driven by independent increment processes. The interpretation of stochastic differential equations as integral equations defined in a mean-square sense. Prerequisite: Engineering 187. Offered in 1974-75.

198 Group Studies for Undergraduates (1-1-1) F, W, S
Group study of selected topics in engineering.

199 Individual Study (½ or 1) F, W, S
For undergraduate engineering majors in supervised but independent reading or research of engineering topics of current interest.

GRADUATE COURSES IN ENGINEERING

210 Imaging Optics (1) F
Lecture, four hours. Optical imaging instruments from geometrical and wave optic standpoints. Indirect optical imaging methods such as holography, interferometry and intensity correlation interferometry. Offered in 1974-75.

211 Statistical Optics (1) W
Lecture, four hours. Temporal and spatial coherence of electromagnetic radiation. Statistics of photoelectrons generated by thermal radiation and laser beams. Wave propagation through fluctuating medium. Signal-to-noise ratio in photodetection. Offered in 1974-75.

212 Engineering Quantum Mechanics (1) F
Lecture, four hours. Basic quantum electronics for optical electronic devices.

213 Quantum Electronics (1) W
Lecture, four hours. Semi-classical treatment of lasers and related optical electronic devices.

214 Quantum Optics (1) S
Lecture, four hours. Quantum theory of electromagnetic fields and its application to laser and related optical devices. Noise, photoelectron counting statistics and intensity correlation interferometry.

218A Advanced Linear Programming and Extensions (1) F
Lecture, four hours. Theoretical foundations of the simplex method and its variants. Duality relationships. Postoptimization techniques, upper bounding, and decomposition. Complementarity. Discrete programming. Applications and computer usage. Prerequisite: Engineering 118A.

218B Theory of Nonlinear Programming (1) W
Lecture, four hours. Convex sets. Convex and concave functions. Constraints. Criteria. Conditions of optimality. Convergence criteria. Duality and transformations. Geometric programming.

218C Algorithms for Nonlinear Programming (1) S
Lecture, four hours. Optimization methods for digital computers. Single and multivariable search techniques. Gradient methods. Conjugate directions. Constrained optimization. Computational aspects. Applications to problems in design and control.

219A Production and Inventory Control (1) W
Lecture, four hours. Optimal policies for multistage dynamic processes. Discrete and continuous time models. Deterministic and stochastic models. Exact solutions and heuristic methods. Applications.

219B Applied Stochastic Processes and Queueing Theory (1) S
Lecture, four hours. Application of stochastic processes to the study of the characteristics of queueing and replacement models and their optimization. Prerequisite: Engineering 186.

222A-B Statistical Pattern Classification (1-1) F, W
Lecture, four hours. Design of machines to sort statistically generated observations into classes, such as speech, radio signals, and electrocardiograms. The techniques discussed include decision theory, divergence, feature selection, cluster analysis and prototype decisions. Prerequisite: Engineering 186 or Math 130A.

227A-B Detection, Estimation and Demodulation Theory (1-1) F, W
Lecture, four hours. Application of statistical decision theory, state variables, random processes and the Ito Calculus to deriving optimum receiver structures for signal detection, parameter estimation and analog demodulation. Prerequisite: Engineering 187. Offered in 1974-75.

228A-B Communication and Information Theory (1-1) F, W
Lecture, four hours. Communication over noise channels via optimum receiver design, information theory concepts – entropy, mutual information, encoding of information. Shannon's coding theorems, channel capacity, and implementation of some coded systems. Prerequisite: Engineering 187.

240A Linear System Theory (1) F
Lecture, three hours; discussion, one hour. Fundamental theory of linear dynamic systems. Linear algebra, linear vector spaces and differential equations. System representation and canonical forms. Stability theory, controllability and state variable feedback, observability and observers, decoupling, model matching, and realization theory. Prerequisite: Engineering 140A.

240B Deterministic Optimal Control (1) W
Lecture, four hours. Formulation of optimal control theory for deterministic systems. Calculus of variations, Pontryagin maximum principle, dynamic programming, and computational methods. Prerequisite: Engineering 240A.

240C Stochastic Optimal Control (1) S
Lecture, four hours. Stochastic processes and optimal estimation for linear systems. Stochastic optimal control for linear systems. Non-linear estimation and control problems. Prerequisite: Engineering 240B.

248 Mechanical Vibrations (1) W
Lecture, three hours; laboratory, one hour. Vibrations with applications to mechanical, civil and acoustical systems. Topics covered include the free and forced vibration of single, multi, and infinite d.o.f. systems. Computer programs for time and frequency response analyses are supplied and discussed. Prerequisite: Engineering 100B.

258A-B Flow in Open Channels (1-1) F, W
Lecture, three hours. Mechanics of fluid motion in open channels. Uniform and non-uniform flow, unsteady flow, method of characteristics, flood waves, roll waves, numerical methods, models, flow over movable beds, sediment transport. Prerequisite: Engineering 155. Offered in 1974-75.

263A-B-C Water and Air Resources Technology (1-1-1) F, W, S
Lecture, four hours; laboratory, three hours. Water, waste, and air pollution control. Flow through porous media. Dispersion and turbulent diffusion of pollutants. Physical, chemical and biological treatment. Reuse of wastes. Ultimate disposal of non-reusable wastes. Prerequisites: Engineering 163, Engineering 164A, Engineering 101B.

264 Advanced Air Pollution Control Technology (1) S
Lecture, four hours; discussion, one hour. Pollutant control technology of gaseous and particulate emission, design and application with consideration of scrubbing, separation, precipitation, absorption, catalysis, filtration, and hooding. Prerequisite: Engineering 263A.

265 Water and Air Treatment Chemistry (1) F
Lecture, four hours; laboratory, three hours. Inorganic and organic chemistry of water, wastes, and air pollutants. Chemistry of natural waters, quality changes from contact with soil, supersaturation phenomena and complex equilibria. Chemistry of organic pollutants including pesticides and combustion products. Laboratory. Prerequisites: Engineering 161, Chemistry 1A-B-C.

266 Public Health Aspects of Environmental Engineering (1) S
Lecture, four hours; laboratory, three hours. Public health aspects of water engineering. Aquatic microbiology. Virology. Bacteriological water quality standards. Waterborne diseases. Principles of epidemiology and toxicology. Airborne diseases. Prerequisite: Biological Sciences 101E-B-C.

267 Design of Environmental Systems (1) S
Lecture, three hours. Applied course in which senior students work as staff to a graduate student in completing a project developed during prior two quarters in area of environmental engineering of interest to students participating. Interaction with the professional community is encouraged. Prerequisite: Engineering 263A-B-C (may be taken concurrently).

268A-B Environmental Resources Systems — Planning and Evaluation (1-1) W, S
Lecture, three hours. Planning civil engineering systems. Optimization of integrated water reuse systems and transportation systems. Design criteria for public works. Economic evaluation of alternative systems. Prerequisite: Engineering 263A-B-C (may be taken concurrently).

270 Combustion (1) S
Lecture, four hours. Atomic and molecular structure, reaction mechanisms and rates, chemical equilibria, flame temperatures, nonequilibrium phenomena, ignition limits, diffusion flames and droplet burning, premixed flames, spectral properties of flames, experimental techniques, combustors. Prerequisite: Engineering 263A.

275 Advanced Transportation and Traffic Engineering (1) S
Lecture, four hours; laboratory, three hours. Transportation systems, the interaction

between transportation systems and urban planning. Transportation networks including transportation mode distribution and traffic flow inter-relationship; design of interfaces among alternate complementary modes of transportation. Prerequisite: Engineering 175.

280 Advanced Noise Pollution and Control (1) W
Lecture, four hours; laboratory, three hours. Noise sources, the technology of noise control, noise measurement in the environment, community and individual response to noise, noise as a factor in environmental impact. Current noise problems and noise abatement efforts. Prerequisite: Engineering 169.

285A-B-C Methods of Engineering Analysis (1-1-1) F, W, S
Lecture, three hours; discussion, one hour. Operators in linear vector spaces as a general tool for the analysis of engineering systems. The course will develop a unified mathematical approach applicable to problems in all fields of engineering. Prerequisites: Engineering 100C, Engineering 101C or 101D.

295 Seminars in Engineering (varies) F, W, S
Scheduled for 1973-74 are: (a) Combustion; (b) Environmental Systems Modeling; (c) Pattern Recognition; (d) Quantum Electronics and Modern Optics; (e) Systems and Operations Research. Prerequisite: Consent of instructor.

298 Topics in Engineering (varies) F, W, S
Topics to be selected each quarter. Prerequisite: Consent of instructor.

299 Individual Research (varies) F, W, S
Individual research or investigation under the direction of an individual faculty member. Prerequisite: Consent of instructor.

Karen Saul, humanities

graduate school of administration

Lyman W. Porter
Dean

The Graduate School of Administration offers programs of advanced study leading to the M.S. or Ph.D. degree in Administration. Through these programs individuals may prepare for significant roles in business or industry, in education and in government, and in other types of organizations. Among others, these roles include corporate managers, program directors, federal executives, state and local officials, urban and regional planners, administrators for various levels of the education system, organizational staff experts, political leaders, hospital administrators, managers of scientific or research enterprises, engineer-administrators, policy analysts, researchers, and faculty members.

Three basic assumptions underlie the School's philosophy of graduate education. First, there are significant phenomena and problems common to business-industrial, educational, and governmental organizations; second, a common set of disciplines, concepts, techniques, and technologies exist which are appropriate to a wide range of organizational or scholarly roles; third, many administrators in the future will work in more than one of the three arenas during their careers.

The M.S. program is intended to increase the likelihood that future leaders will be able to communicate effectively and move easily from one kind of organizational unit to another, thereby providing society with versatile managers and administrators. The Ph.D. program for the field of administration has the usual academic and research objectives.

General Admission Requirements

Requests for application materials should be addressed to the Graduate Admissions Office, University of California, Irvine; Irvine, California 92664.

Applicants for the Ph.D. program should complete all phases of the application procedure by March 15. Applicants for the M.S. program should complete all phases of the application procedure by May 31. (GSA also admits applicants in the winter and spring quarters; application procedures should be completed six weeks prior to the beginning of the appropriate quarter.)

In addition to the general University of California rules governing admission to graduate study, the Graduate School of Administration normally requires the following:

1. The Graduate Record Examination (verbal and quantitative aptitude parts) or the Admissions Tests for Graduate Study In Business.

2. Subject matter preparation that emphasizes a background in social science courses (psychology, sociology, economics, political science, etc.), *and*

course-work in quantitative areas, such as mathematics at the level of introductory calculus, and probability and statistics.

3. A previously prepared paper (research report, essay, case study) which may be indicative generally of the applicant's interests and capabilities.

Evaluation of the applicant's file for admission will consist of an integrated assessment of all materials (test scores, transcripts of previous academic work, previously prepared paper, statements on application forms, and letters of recommendation). There are no arbitrary cut-off points on any of the criteria for admission – rather, admission is on the basis of the total configuration of qualifications. (In those cases where there is no question concerning the quality of an applicant's aptitudes and previous academic work, but where there are major deficiencies in prior subject matter preparation, applicants can be admitted for a period of one year as "Limited Status" students in order to devote full time to making up these deficiencies in appropriate undergraduate courses on campus. Those anticipating enrolling as Limited Status Students should show this on their application forms.)

Educational Objectives

Regardless of the content of particular courses, it is expected that all degree candidates will be exposed to and have the ability to use the following:

1. **General Knowledge:** The Broad Context of Organizations and Management: The mid-twentieth century (significant trends, conditions, and problems); history of science, scientific inquiry, and the philosophy of science; economic, political and social analysis.

2. **Conceptual and Empirical Knowledge of Organizations:** Basic concepts of management; the structure and functions of organizations, including comparative analysis and inter-organizational relations; levels and units of decision-making; individual behavior and group norms; operating environments of organizations.

3. **Specific Knowledge of Particular Arenas of Administration:** Depth study of specific institutional environments for administrative practice, such as educational, governmental, business-industrial organizations, and other types of organizations.

4. **Mathematics and Statistics:** As tools of precise reasoning, as languages which will tend more and more to dominate professional and scholarly literature, and above all, as foundations for relevant quantitative methods.

5. **Technical Bases of Management:** Decision processes; operations research; systems and policy analysis; budgeting and accounting techniques; personnel policies; techniques for measuring and affecting attitudes and behavior; computer technology and information sciences; research design and strategies.

6. **General Skills:** Political skills, effective management of interpersonal relations, leadership strategies and tactics, and competence in oral, graphic, and written expression.

7. **Professional Orientations:** Identification of factors, values, and policies which might bear on successful, responsible, and intellectually honest performance of organizational roles. Recognition of the administrator's potential contributions to society and of ethical and moral problems which arise from social research and the management of human enterprises.

Undergraduate Course Offerings

Although there are no undergraduate degree programs in Administration available at UCI, the GSA faculty offers a limited number of upper-division courses for undergraduates each year. In establishing these undergraduate course offerings, the faculty anticipated three types of students drawn to courses in administration: (1) students who wish to learn about the administration of organizations as a way of gaining appreciation for a significant aspect of the culture, (2) students preparing for careers in other fields that require some knowledge of administration but not a high concentration in the field, and (3) students who expect to go on to graduate work in administration and who wish early guidance and undergraduate work appropriate to this career objective.

The Master of Science in Administration

The M.S. program in GSA requires a minimum of 23 quarter courses with a minimum overall grade point average of 3.00. The 23 quarter courses normally take two full academic years or their equivalent in part-time registration. The courses in the M.S. program are divided into two groups, each group designed to achieve specific educational objectives.

Core Courses

The first group consists of twelve Core Courses and has two fundamental aims: (1) to develop skills needed to select and use effectively the appropriate means, methods, and techniques for diagnosing and solving organization problems; (2) to identify the significant concepts and phenomena associated with the study of complex organizations, and to bring to bear the relevant contributions of the core disciplines or interdisciplinary sources on the analysis of organizations and the administrative process.

The twelve Core Courses are listed below. For descriptions of the general content of these courses, refer to section on courses. With the exception of Quantitative Methods (two quarters), any core course may be taken in the first or second year. Quantitative Methods must be taken in the winter and spring quarters of the first year.

The core will consist of the following 12 quarter courses: Quantitative Methods for Administration; Quantitative Methods for Administration (continued); Microeconomics for Administration; Macroeconomics for Administration; Accounting and Financial Control; Organization Theories and Models; Organization Theories and Models (continued); Interpersonal Dynamics; Manpower Utilization and Labor Relations; Institutional Arena (Seminar in Educational Administration, or Business Administration, or Public Administration); Institutional Arena (continued); Workshop in Administrative Problem-Solving.

Elective Courses

The remaining course work for the M.S. degree will consist of 11 elective courses. The major emphasis in the elective courses will be on the development of specialized knowledge relevant to particular institutions (e.g., educational, business, government, or other types of organizations), and on achieving additional depth in a discipline or interdisciplinary area or specialized competence in the use of a particular set of technical tools and methods. These elective courses are selected by the student in light of his educational and career goals and interests.

The Three-Two Program

In addition to the two-year program for students who have already received a Bachelor's Degree from this University or another institution, outstanding UCI undergraduate students may enter a cooperative "three-two" program with other campus units such as the School of Social Sciences, the School of Engineering, the School of Biological Sciences, or the Department of Information and Computer Science. Students in such a program will spend their first three years in one of these other units, followed by two years in the Graduate School of Administration. Successful completion of requirements in this program leads to a Bachelor's Degree in the cooperating field after the fourth year and a Master's Degree in Administration after the fifth year. Students contemplating entering such a three-two program should contact the Graduate School of Administration prior to, or early in, the start of their junior year, for the purpose of program consultation.

Administrative Internship Program

To complement the academic curriculum of GSA, an Administrative Internship Program provides practical application and work experience to interested GSA Master's students. The program is intended primarily for those students in the second year of their M.S. study. Student interns are employed by local cooperating organizations in paid, administrative positions. Course credit is available for the participants of the Internship Program through the course, "Administrative Internship Seminar." GSA faculty and organizational representatives as well as student interns participate in this seminar which deals with specific topics and projects encountered by the interns in their positions.

Part-Time Study

Students may enroll in the M.S. program on a part-time basis. Such students normally take two courses per quarter and are required to complete the M.S. degree in no more than four years. At present GSA does not regularly offer night courses; however, an attempt will be made to accommodate the needs of part-time students by offering several courses each quarter at convenient late afternoon or evening hours. (Note: University regulations state that "the full registration fee is required of the students regardless of the number of courses taken.")

The Doctor of Philosophy in Administration

Students who have completed the GSA M.S. program (or have obtained a Master's Degree elsewhere in an area of administration) may be eligible for the GSA doctoral program. Requirements of the Ph.D. program include a broad knowledge of core disciplines as represented by the 12 core courses of the M.S. program. In addition, the Ph.D. must qualify as a skilled researcher and must complete a significant exercise demonstrating these skills.

Although there is considerable variation in the length of time beyond a Master's Degree needed to complete the Ph.D., a realistic range would be two to four years. The Ph.D. program is divided into three phases: preliminary, qualifying, and dissertation.

The preliminary phase (which must be completed within 5 quarters) is designed to ensure that all Ph.D. students have (1) a thorough knowledge of core materials, (2) familiarity with administrative problems associated with a specific institutional arena (e.g., educational, business-industrial, or govern-

ment administration), (3) knowledge of how to conduct research, and (4) a depth of knowledge in a basic discipline or tool relevant to administration (e.g., operations research, behavioral science models for administration).

In the qualification phase the student prepares for dissertation research in an area of specialization. This phase is completed when an oral qualifying examination is passed. Passing this examination formally advances the student to candidacy.

The dissertation phase involves a significant original research project which demonstrates the Ph.D. student's creativity and ability to launch and sustain a career of research. The dissertation attests to the usual scholarly objectives of any Ph.D. program.

There are no foreign language requirements in the GSA Ph.D. program.

GRADUATE SCHOOL OF ADMINISTRATION FACULTY

Lyman W. Porter, Ph.D. Yale University, *Dean of the Graduate School of Administration, Professor of Administration and Psychology*

A. Bradley Askin, Ph.D. Massachusetts Institute of Technology, *Assistant Professor of Administration*

Colin E. Bell, Ph.D. Yale University, *Assistant Professor of Administration*

George W. Brown, Ph.D. Princeton University, *Professor of Administration and Information and Computer Science*

Robert Dubin, Ph.D. University of Chicago, *Professor of Administration and Sociology* (On leave fall and winter)

Henry Fagin, M.S. Columbia University, *Professor of Administration, Research Administrator in the Public Policy Research Organization* (On leave winter and spring)

Stepan Karamardian, Ph.D. University of California, Berkeley, *Associate Professor of Administration and Mathematics*

Mei Liang O. Kato, Ph.D. University of California, Los Angeles, *Assistant Professor of Administration*

Kenneth L. Kraemer, Ph.D. University of Southern California, *Associate Professor of Administration, Associate Research Administrator in the Public Policy Research Organization*

Newton Margulies, Ph.D. University of California, Los Angeles, *Associate Dean of the Graduate School of Administration and Associate Professor of Administration*

Fred M. Tonge, Ph.D. Carnegie Institute of Technology, *Professor of Administration and Information and Computer Science*

John Wallace, Ph.D. Northwestern University, *Associate Professor of Administration and Psychology* (On leave fall)

Associated Faculty

Melvin H. Bernstein, Ph.D. University of California, Los Angeles, *Lecturer in Administration, Special Assistant to the Vice Chancellor – Student Affairs*

Robert E. Bickner, A.B. University of Florida, *Lecturer in Administration, Research Economist in the Public Policy Research Organization*

James W. Bush, M.P.H. Columbia University, M.D. Medical College of Virginia, *Lecturer in Administration, Assistant Professor, Community Medicine, UC San Diego*

John Hoy, M.A. Wesleyan University, *Senior Lecturer in Administration, Vice Chancellor – Student Affairs*
George O. Huber, Ph.D. Purdue University, *Visiting Professor of Administratio*
Joseph W. McGuire, Ph.D. Columbia University, *Professor of Administration, Vice President of Planning for the University of California*
Alex Mood, Ph.D. Princeton University, *Professor of Administration, Director of the Public Policy Research Organization*
Judy B. Rosener, M.A. California State College at Fullerton, *Lecturer in Administration*

COURSES IN GRADUATE SCHOOL OF ADMINISTRATION

See page 5 for explanatory notes on course listings.

180 Introduction to Administration (1) F
Seminar, three hours. Combination of readings, talks by GSA faculty and representative administrators, and site visits followed by discussion will introduce students to the subject of administration, its history, major concepts, realms of application, types of activities. Student progress in understanding will be demonstrated through one or more papers on selected topics.

181 Behavioral Science in Administration (1) W
Seminar, three hours. Focus is twofold: (1) on the behavior of people as members of groups and organizations and (2) on the behavior of the organization in relation to its environment. Readings will emphasize concepts and models that can be used for analysis. Cases and simulations provide the student with opportunity to build experience in the use of conceptual material and to understand the thinking-acting processes of people in the role of administrator.

182 The Future by Design (1) S
Seminar, three hours. Applicable to a variety of organizations, public and private. Introduction to methods of identifying problems and designing alternative plans, policies, and programs to meet perceived needs; to choose among them, act pursuant to them, monitor and evaluate their impacts, and modify them in the light of experience.

183 Operations Management (1) S
Seminar, three hours. Introduction to accounting and managerial control (accounting information, analysis and interpretation of financial data, cost and other controls) and to management analysis and policy (management of material and informational flows within organizations).

201A Introduction to Quantitative Methods (1) F
Seminar, four hours. Basic concepts of probability theory and methods of statistical inference, emphasizing application to administrative and management decision problems. Topics include random variables and their properties, the central limit theorem, analysis of variance and regression, non-parametric methods, and decision theory.

201B-C Quantitative Methods for Administration (1-1) W, S
Seminar, four hours. The tools of mathematical modeling as a basis for managerial decision-making. Deterministic models including linear programming, production smoothing, and inventory control. Probabilistic models including Bayesian and classical approaches to decision problems, design of experiments, computer simulation.

202A-B Organization Theories and Models (1-1) F, W
Seminar, three hours. Description, analysis, and comparison of organizations, and behavior of individuals within organizations. Analysis of behavior in a wide range of organizations and societies. Theories and models relating to goals and objectives, structure, management and leadership, group influence, motivation and change.

202C Organization Theories and Models (1) S
Seminar, three hours. Emphasis on skills in developing models of organizational behavior. Prerequisites: 202A-B.

203 Accounting and Financial Management (1) F
Seminar, three hours. Nature and purpose of accounting, principal accounting instruments, and valuation problems. The finance function in the short and long run, including cost of capital and capital structure.

204 Microeconomics for Administration (1) W
Seminar, three hours. Equilibrium theory of individual economic decision units, with primary emphasis on theory of the firm, theory of the household, and social welfare theory. Topics include derivation of demand curves, production functions, models of competition activity analysis, and related concepts.

205 Macroeconomics for Administration (1) S
Seminar, three hours. Principal determinants of national income and employment, with emphasis on concepts, tools, and data. Construction of National Income and Product Accounts, classical, Keynesian, and other models, and applications to fiscal and monetary policy instruments.

206 Manpower Utilization and Labor Relations (1) S
Seminar, three hours. Policies dealing with an organization's relationship with its individual members and with its organized members. Topics include underlying assumptions of and values expressed by manpower policies, exploration and economic implications of alternative policies, labor organization, collective bargaining, and dispute settlement.

207 Interpersonal Dynamics (1) F
Seminar, three hours. Theory and practice devoted to the nature and significance of interpersonal dynamics in organizational and administrative contexts, with the opportunity for the student to enhance awareness of his own interpersonal style and its impact as well as to develop increased competence. In addition, exercises and simulations are introduced to create an experiential learning climate. Students are asked to participate in experiential learning on a voluntary basis.

208 Workshop in Administrative Problem-Solving (1) W
Seminar, three hours. Provides experiential learning opportunities in a generalized case-oriented approach, designed to integrate conceptual-theoretical knowledge and common tools and techniques as required by a problem or task context. Problems drawn from simulated activities, field projects, or other sources. May be repeated once for credit.

211A-B Seminar in Public Administration (1-1) F, W
Seminar, three hours. Government organizations and administration within them. Historic development and central concepts, issues, and problems of public administration; structure and processes of government and of the administration function in government; planning, implementing, and evaluating governmental policies.

212A-B Seminar in Business Administration (1-1) F, W
Seminar, three hours. Business organizations, businessmen, environment of and interactions among business organizations. Values, goals and objectives; profit, decision processes, and finance; the various environments, ethics, conflict of interest, and social responsibility; competition and concentration; comparative analysis of businesses; input-output system.

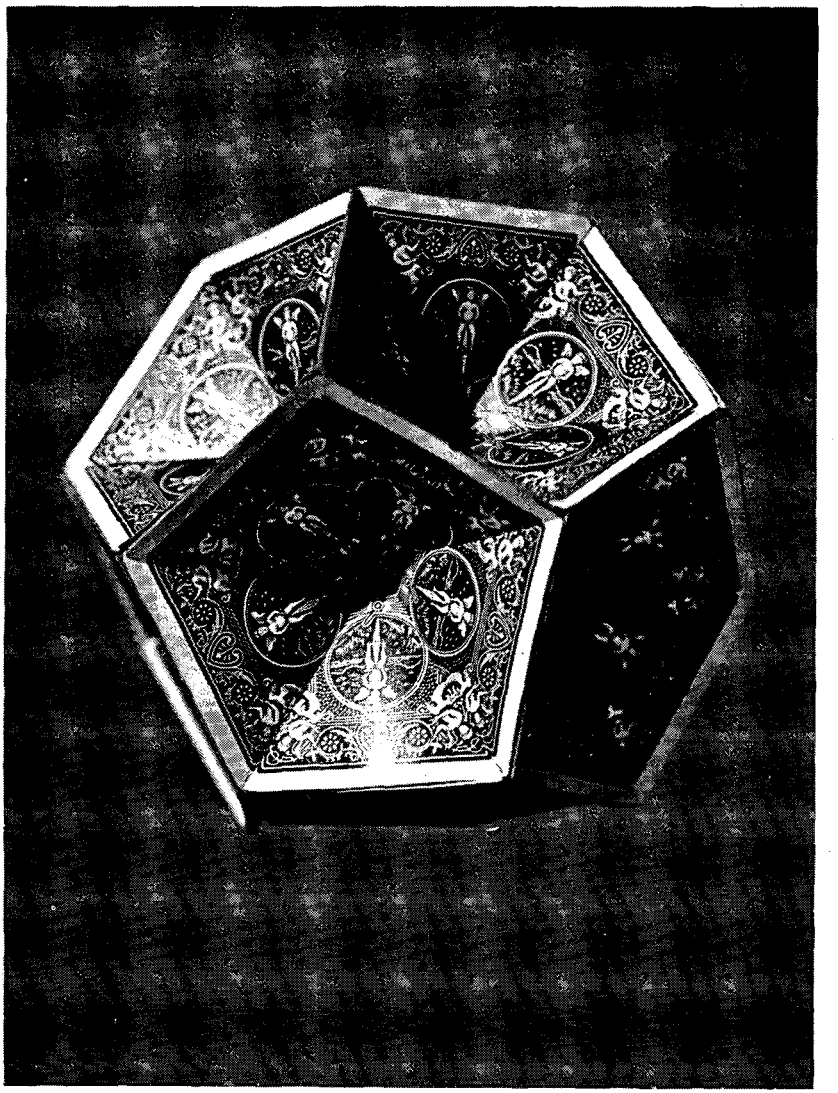
212C Seminar in Business Administration (1) S
Seminar, three hours. Further exploration of selected topics from 212A-B. Prerequisites: 212A-B.

213A-B Seminar in Educational Administration (1-1) F, W
Seminar, three hours. The educational institution as an organization and the role of the administrator therein, with particular emphasis on higher education. Educational policies and policy making, financing of education, the societal context, employment patterns, innovations, current problems and long-range trends.

280A-B-C-D-E-F-G- . . . Advanced Study in Special Topics (1-1-1- . . .)
Seminar, three hours. Each quarter a limited number of optional special topic seminars will be offered. Possible topics: Advanced Organizational Behavior, Organization-

al Change, Information Systems for Management, Advanced Operations Research, Urban Research and Policy Planning, Public Policy Analysis.

299 Individual Directed Study (1)
Individual study under the direction of a selected faculty member. Prerequisites: Determined by instructor.



Terry Wilson, art major

college of medicine

Stanley van den Noort, M.D.
Acting Dean

Good health in its broadest sense – physical, mental, social, and environmental – is recognized as a necessity in our society. Our expanding population, with its expanding needs for health care, demands an ever increasing number of physicians in all specialties and an increasingly better use of those physicians we are training. At the same time, investigators in the field of medicine must be trained, for medical science cannot advance without the creation of new knowledge about health and disease; and dedicated, skilled teachers are needed to bring this new knowledge to students.

The College of Medicine recognizes three responsibilities: to create knowledge through medical research; to disseminate knowledge through teaching and publication; and to make knowledge available to medical practitioners and members of the other health professions, through continuing education programs. The College also recognizes its responsibility for developing in its students an attitude of compassion, of sympathy with and understanding for patients as individuals within a total social and economic environment.

Facilities

Preclinical instruction at the College of Medicine is conducted in facilities on the Irvine campus, which include departmental offices and laboratories, student multidiscipline laboratories, and academic support units such as the medical sciences library, biometrics laboratory, scientific equipment suite, and vivarium. Students can watch televised surgical operations and clinical procedures in color on videotape from the studio at UCI's major affiliated teaching hospital or live from the clinics and operating rooms; a two-way audio system permits students to ask questions during the procedures.

Funds for the construction of permanent, on-campus facilities for the College of Medicine were approved with passage of a bond issue in November, 1972. Facilities to be constructed with bond funds include Medical Sciences I, a basic sciences building, and Medical Sciences II, an on-campus University teaching hospital.

Clinical instruction is presently conducted at various affiliated hospitals.

Internship and Residency Programs

The College of Medicine offers professional postdoctoral programs for interns and residents at its various affiliated hospitals. The intern program includes rotating (mixed) internships in psychiatry, radiology, and pathology, as well as straight internships in medicine, gynecology and obstetrics, pediatrics, and surgery. The resident program offers curricula in most disciplines. All programs meet the formal standards of the American Medical Association and the appropriate specialty boards.

ADMISSION

The College gives equal consideration to applicants of all ethnic and racial backgrounds, religious preferences, and to both men and women. All are encouraged to apply. All inquiries should be addressed to: Office of Medical Admissions, College of Medicine, University of California, Irvine; Irvine, California 92664.

First-year students are admitted only in July of each year.

A student formerly enrolled in the College may be required, before readmission, to pass examinations in the subjects previously completed.

Candidates for admission to the first-year class in the College must meet the following requirements:

1. The candidate must have completed a four-year high school course, or its equivalent, acceptable for enrollment in the college of letters, arts, and sciences of an accredited university, college, or junior college.

2. The candidate for admission must have completed, with demonstrated superior scholarship record, a minimum of three full years of premedical work; this work must total not less than 90 semester units or an equivalent number of quarter units and be acceptable for Bachelor's Degree credit in an accredited institution of higher learning. The number of units carried is to be the amount necessary to complete the Bachelor's Degree requirements in no more than four years. Candidates for admission may submit junior college credit only to the extent granted on transfer to a four-year college or university. For scholarship evaluation, actual letter or numerical grades in courses are highly desirable and are essential in the areas of required subjects. The following minimum specified subjects of premedical work are offered as a guide to the candidate: chemistry (including general, organic, and quantitative analysis), 16 semester units or 24 quarter units; physics, 8 semester units or 12 quarter units; biology and/or zoology (including vertebrate embryology), 12 semester units or 18 quarter units.

These courses serve as a practical foundation for work in the medical college. Additional work in the sciences does not necessarily improve the applicant's prospect of admission, but courses in mathematics (calculus, statistics), comparative anatomy of the vertebrates, and genetics are considered to provide a stronger premedical foundation and are looked on with favor. Duplication of medical curriculum subjects is not an advantage (i.e., anatomy, physiology, or bacteriology).

Premedical students are advised to take advantage of the opportunity for intellectual maturation afforded by a well-rounded liberal arts curriculum. The study of English is of particular importance.

The applicant should direct any questions he may have regarding the acceptability of a course to the Office of Admissions.

3. The candidate must attain a satisfactory score in the Medical College Admissions Test. The score report for this test must be received by the Admissions office of the College before acceptance may be granted. Inquiries regarding this test should be addressed to the Medical College Admissions Test, The Psychological Corporation, 304 East 45th Street, New York, N.Y. 10017.

4. A personal interview with a member of an Interview Committee is required of the candidate after preliminary consideration of his application for admission. Letters of recommendation from college professors are invited. Candidates for interview will be notified of the date. Those candidates who live a considerable distance from the Irvine campus may be interviewed by someone designated by the College of Medicine. An interview does not guarantee admission.

Western Interstate Commission for Higher Education

The College of Medicine participates in the student exchange program of the Western Interstate Commission for Higher Education, under which qualified legal residents of western states without medical schools – Alaska, Arizona, Hawaii, Idaho, Montana, Nevada, and Wyoming – are given a reduction of tuition and fees. To be eligible for this program, the student must apply to the WICHE certifying officers in his own state. For addresses of certifying officers, write to the Western Interstate Commission for Higher Education, University East Campus, Boulder, Colorado 80304.

Procedure for Admission

The College is a member of the Association of American Medical Colleges Application Service (AAMCAS). Requests for applications may be submitted to the College or directly to the Association of American Medical Colleges, One Dupont Circle N.W., Washington, D.C. 20036. All AAMCAS applications will be reviewed by our Admissions Committee. An applicant may then be requested by us to submit additional material consisting of letters of recommendation, supplemental transcripts, health history, personal information form, two photographs, and a fee of $20.

No additional material should be submitted until requested by the College.

Applications may be submitted at any time between June 1 and December 15 of the year preceding that into which entrance is desired.

No application for admission will be accepted which does not clearly indicate that all the required subjects will have been completed by the date of entrance.

Selection of Candidates

The fulfillment of scholastic entrance requirements and the ability to pay tuition and other fees do not of themselves constitute a right to study medicine. This privilege is sought by many more applicants than educational facilities can accommodate. The privilege is granted, by action of the Admissions Committee and the Dean, to those who possess, in addition to scholarship, other attributes important in the physician. Ethnic background, sex, and religious or political convictions do not enter into the consideration of the Committee. Those students selected to enter the program must continue throughout the course to demonstrate their ability and worthiness to assume the responsibilities of the physician.

No candidate for admission will be considered who has been dismissed from any college, university, or other professional school. If the applicant has attended another professional school, he must submit complete official transcripts and a letter of honorable dismissal from that school.

Notice of Appointment

The Dean of the College will notify the candidate of his appointment as soon as his application has been acted upon by the Admissions Committee. Written acceptance of the appointment, accompanied by an acceptance fee of $50.00, must be sent to the College within two weeks after receipt of the notice of appointment. This fee will be applied against the University registration fee for the first quarter. Should an applicant accept admission and then decide to withdraw prior to March 1 of the year of anticipated admission, this fee will be refunded; after that date no refund shall be made. This is in keeping with the recommendations of the Association of American Medical Colleges.

COLLEGE OF MEDICINE FACULTY

For complete medical faculty listing, refer to the College of Medicine Announcement.

Stanley van den Noort, M.D. Harvard Medical School, *Professor of Medicine (Neurology) and Acting Dean of the College of Medicine*

Alan H. Adams, M.D. Northwestern Medical School, *Assistant Adjunct Professor of Medicine*

Stuart M. Arfin, Ph.D. Albert Einstein College of Medicine, *Assistant Professor of Biological Chemistry*

Steven A. Armentrout, M.D. University of Chicago, *Associate Professor of Medicine (Hematology)*

Wilbert S. Aronow, M.D. Harvard Medical School, *Associate Adjunct Professor of Medicine*

Edward R. Arquilla, M.D., Ph.D. Western Reserve University School of Medicine, *Chairman of Pathology, Professor of Pathology and Medical Pharmacology & Therapeutics*

Roland M. Atkinson, Jr., M.D. Stanford University School of Medicine, *Assistant Adjunct Professor of Psychiatry & Human Behavior*

Robert H. Bartlett, M.D. University of Michigan Medical School, *Assistant Professor of Surgery*

Carol A. Bell, M.D. University of California, San Francisco, *Assistant Professor of Pathology in Residence*

J. Edward Berk, M.D. Jefferson Medical College, D.Sc., University of Pennsylvania, *Chairman and Professor of Medicine*

Raymond A. Berke, M.D. Northwestern Medical School, *Assistant Professor of Radiological Sciences*

Arnold Binder, Ph.D. Stanford University, *Professor of Psychology, Social Ecology and Psychiatry & Human Behavior, Director of Social Ecology*

Warren L. Bostick, M.D. University of California, San Francisco, *Professor of Pathology*

Mary Jane Bromley, R.N., *Lecturer in Nursing, Regional Medical Programs*

Jack Brook, M.D. New York Medical College, *Associate Adjunct Professor of Medicine*

Selma B. Brown, M.S.W. Smith College, *Lecturer in Social Work, Psychiatry & Human Behavior*

Alfred A. Buerger, Ph.D. Cornell University, *Assistant Professor of Physical Medicine & Rehabilitation (Neurophysiology) and Physiology*

Alan R. Bures, M.D. Indiana University School of Medicine, *Assistant Professor of Medicine*

Justin D. Call, M.D. University of Utah College of Medicine, *Professor of Psychiatry & Human Behavior*

Berry Campbell, Ph.D. Johns Hopkins University, *Professor of Physiology*

Jean E. Carlin, M.D., Ph.D. University of Minnesota Medical School, *Clinical Instructor of Psychiatry & Human Behavior*

Thomas C. Cesario, M.D. University of Wisconsin, *Assistant Professor of Medicine in Residence*

William S. Champney, Ph.D. State University of New York, *Adjunct Instructor of Medical Microbiology*

Frank R. Ciofalo, Ph.D. University of Southern California, *Assistant Professor of Medical Pharmacology & Therapeutics*

Morton Civen, Ph.D. Harvard University, *Assistant Adjunct Professor of Physiology*

Jeffrey L. Clark, Ph.D. University of Chicago, *Assistant Professor of Biological Chemistry*

Harry B. Cohen, Ph.D. McGill University, *Assistant Professor of Psychiatry & Human Behavior in Residence*

Manley Cohen, M.B., B. Ch. University of Witwatersrand, *Assistant Professor of Medicine in Residence*

Jay B. Cohn, M.D. Yale University School of Medicine, *Associate Adjunct Professor of Psychiatry & Human Behavior*

Robert C. Combs, M.D. University of California, San Francisco, *Associate Dean of Continuing Medical Education, Coordinator of the Regional Medical Programs, Clinical Professor of Surgery*

John E. Connolly, M.D. Harvard Medical School, *Chairman and Professor of Surgery*

T. Timothy Crocker, M.D. University of California, San Francisco, *Professor of Medicine and Chairman of Community & Environmental Medicine*

B. Dwight Culver, M.D. Stanford University School of Medicine, *Associate Clinical Professor of Industrial Medicine*

Dennis D. Cunningham, Ph.D. University of Chicago, *Assistant Professor of Medical Microbiology*

Faud J. Dagher, M.D. American University of Beirut, *Visiting Associate Professor of Surgery*

Angelo E. Dagradi, M.D. Long Island College of Medicine, *Associate Adjunct Professor of Medicine*

Edward R. Dana, M.D. Johns Hopkins University, *Associate Clinical Professor of Radiological Sciences*

Alvin Davis, M.D. Yale University School of Medicine, *Associate Adjunct Professor of Medicine*

Earle A. Davis, Jr., Ph.D. University of Illinois, *Lecturer in Anatomy*

Lyle C. Dearden, Ph.D. University of Utah, *Acting Chairman of Anatomy, Associate Professor of Anatomy and Radiological Sciences*

Mihai C. Demetrescu, Ph.D. Romania, *Assistant Professor of Physiology in Residence*

Robert B. Drury, M.D. University of Southern California, *Associate Clinical Professor of Psychiatry & Human Behavior*

Kenneth W. Dumars, M.D. University of Colorado, *Associate Professor of Pediatrics and Physical Medicine & Rehabilitation*

Robert W. Earle, Ph.D. University of Southern California, *Senior Lecturer in Medical Pharmacology and Assistant Dean, Medical Student Affairs*

Jack I. Eisenman, M.D. California College of Medicine, *Associate Professor of Radiological Sciences in Residence*

Rudolf Ekstein, Ph.D. University of Vienna, *Lecturer in Psychiatry & Human Behavior*

Henry W. Elliott, Ph.D. Stanford University, M.D. University of California, San Francisco, *Chairman and Professor of Medical Pharmacology & Therapeutics and Lecturer in Surgery (Anesthesiology)*

John R. Elpers, M.D. Indiana University School of Medicine, *Assistant Clinical Professor of Psychiatry & Human Behavior.*

Phillip M. Evanski, M.D. Western Reserve University, *Assistant Professor of Surgery (Orthopedic)*

Alan S. Fairhurst, Ph.D. University of Liverpool, *Associate Professor of Medical Pharmacology & Therapeutics and Assistant Dean of Organized Research and Teaching Resources*

Daniel J. Feldman, M.D. New York University School of Medicine, *Adjunct Professor of Rehabilitative Medicine, Psychiatry & Human Behavior and Physical Medicine & Rehabilitation*

William H. Fellner, Ph.D. University of California, Berkeley, *Assistant Professor of Community & Environmental Medicine (Biostatistics) and Mathematics*

Eldon L. Foltz, M.D. University of Michigan Medical School, *Professor of Surgery (Neurological) and Chief of Neurological Surgery*

Suzie W. Fong, M.D. University of California, San Francisco, *Associate Professor of Pediatrics*

Glenn W. Fowler, M.D. Louisiana State University School of Medicine, *Assistant Professor of Pediatrics*

Richard P. Fox, M.D. University of Cincinnati, *Assistant Adjunct Professor of Psychiatry & Human Behavior*

Louis Fridhandler, Ph.D. McGill University, *Associate Adjunct Professor of Medicine (Biochemistry)*

Toshitaka Fujisawa, Ph.D. Kansas State University, *Acting Instructor of Medical Microbiology*

David W. Furnas, M.D. University of California, San Francisco, *Associate Professor of Surgery (Plastic) and Chief of Plastic Surgery*

Stanley Galant, M.D. University of California, San Francisco, *Assistant Professor of Pediatrics*

Alan B. Gazzaniga, M.D. Harvard Medical School, *Assistant Professor of Surgery*

Roland A. Giolli, Ph.D. University of California, Berkeley, *Associate Professor of Anatomy and Psychobiology*

Frederick L. Glauser, M.D. Hahnemann Medical College, *Assistant Professor of Medicine*

Albert Globus, M.D. Northwestern University School of Medicine, *Assistant Professor of Anatomy, Psychiatry & Human Behavior, and Psychobiology*

Gordon C. Globus, M.D. Tufts University School of Medicine, *Associate Professor of Psychiatry & Human Behavior and Social Science*

Michael A. Glueck, M.D. Case Western Reserve University, *Assistant Clinical Professor of Radiological Sciences*

Arthur I. Goldstein, M.D. Albert Einstein College of Medicine, *Assistant Professor of Gynecology & Obstetrics*

Helen R. Gottschalk, M.D. Washington University School of Medicine, *Assistant Clinical Professor of Medicine (Dermatology)*

Louis A. Gottschalk, M.D. Washington University School of Medicine, *Chairman and Professor of Psychiatry & Human Behavior, Social Ecology, and Social Science*

James H. Graham, M.D. University of Alabama School of Medicine, *Professor of Medicine (Dermatology) and Pathology and Chief of Dermatology*
Gale A. Granger, Ph.D. University of Washington, *Associate Professor of Medical Microbiology*
Gerald A. Greenhouse, Ph.D. City University of New York, *Assistant Professor of Anatomy*
John A. Guido, M.D. Chicago Medical School, *Assistant Adjunct Professor of Psychiatry & Human Behavior*
Grant Gwinup, M.D. University of Colorado Medical Center, *Professor of Medicine (Endocrinology)*
Emily N. Hackler, R.N., *Lecturer in Nursing, Regional Medical Programs*
Peter F. Hall, M.D. University of Sydney, Ph.D. University of Utah, *Chairman of Physiology and Professor of Physiology & Reproductive Physiology*
Ann E. Hamilton, M.D. Boston University College of Medicine, *Assistant Professor of Pathology*
Judith A. Harrison, M.D. University of California, Berkeley, *Clinical Instructor of Radiological Sciences*
G. Wesley Hatfield, Ph.D. Purdue University, *Assistant Professor of Medical Microbiology*
Jon F. Heiser, M.D. Western Reserve University, *Assistant Adjunct Professor of Psychiatry & Human Behavior*
Paul E. Hoernig, M.D. University of Illinois, *Assistant Clinical Professor of Psychiatry & Human Behavior*
Solon B. Holstein, Ph.D. University of Mississippi, *Assistant Adjunct Professor of Psychiatry & Human Behavior (Medical Psychology)*
Joyce R. Hostetler, R.N., *Lecturer in Nursing, Regional Medical Program*
Ann L. Howell, M.P.H. University of California, Los Angeles, *Lecturer, Regional Medical Program*
E. Wayne Hull, Ph.D. University of California, Berkeley, *Lecturer in Biological Chemistry*
Robert F. Huxtable, M.D. University of Southern California, *Associate Professor of Pediatrics*
Leroy Hyde, M.D. Cornell University Medical College, *Clinical Professor of Medicine*
Kenneth H. Ibsen, Ph.D. University of California, Los Angeles, *Associate Professor of Biological Chemistry*
Lloyd T. Iseri, M.D. Wayne State University School of Medicine, *Professor of Medicine (Cardiology) and Vice-Chairman of Medicine*
Norman R. Jaffe, Ph.D. University of Florida, *Assistant Professor of Anatomy in Residence*
Oscar Janiger, M.D. California College of Medicine, *Lecturer in Psychiatry & Human Behavior*
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MEDICAL CURRICULUM

The medical curriculum at UCI is based upon a core of 10 quarters plus four elective quarters. The core curriculum includes the body of knowledge, skills, attitudes, and habits considered requisite for all those receiving the M.D. degree, regardless of their future careers.

The first year of the medical education program consists of four interdisciplinary courses, each one quarter in length, taken sequentially by all medical students. The first-year course work concentrates on the sciences basic to clinical medicine; clinicians and their patients are an integral part of the learning situation during the entire year. The remaining six quarters of the core curriculum are clinical in emphasis, with basic science correlates as well as correlation with rehabilitative, community, and preventive aspects of medicine.

The focus is on medical student learning rather than on faculty teaching. Demonstrations, small group discussions and seminars, prosections, appropriate laboratory work by students, student projects oriented to problem solving, audio-visual aids, computer-assisted instruction, and appropriate exposure to clinical situations are an integral part of this focus.

Preclinical Core (first year)

1. **Morphology and Clinical Correlates** (Summer)
   This course includes the study of normal human morphology from sub-cellular, cellular, and organ levels to the individual as a whole with clinical material integrated into the organ system presentation. As this is their first exposure to medical school, students commence learning medical terminology during this quarter.
2. **Function and Clinical Correlates** (F)
   During this quarter students are exposed to all aspects of human function in its broadest sense, including both classical biochemistry and human physiology. These two disciplines are taught on an integrated basis by faculty under the administrative direction of their respective chairmen.
3. **Interaction with the Environment and Clinical Correlates** (W)

   Medical microbiology, immunology, and infectious diseases. During this part of the course, students are taught the fundamental aspects of microbiology and immunology in concert with the principles of infectious disease.

   Community and environmental medicine, biometrics and epidemiology, and patient interviewing. The objective of this part of the course is to provide an understanding of the human organism's relationship to its environment. It is an integrated instructional exercise between medical microbiology and community medicine.
4. **Introduction to Disease and Introduction to Clinical Medicine** (S)

   Pathology. This course correlates the theoretical aspects of disease mechanisms with practical laboratory work, and an integrating influence of clinical pathology is used to give a vertical view of disease mechanisms.

   Pharmacology. Emphasis is on the mechanism of action of drugs at the organ or system level, since this is the level at which physicians use drugs; however, fundamental mechanisms are presented at whatever depth will be helpful to the physician.

   Introduction to patient care. Students receive instruction and practical experience in examining patients in preparation for the clinical clerkships in medicine, surgery, gynecology and obstetrics, pediatrics, and psychiatry.

Clinical Core (second and third year)

The clinical core consists of six quarters which may be taken in any order. During the clinical core, students work predominantly in hospitals and outpatient clinics.

1. **Medicine and Its Correlates**
   Both inpatients and outpatients are studied under appropriate supervision. Whenever possible, students study the same patients intensively over a period of time, thus enabling them to develop and understanding of holistic medicine.
2. **Surgery and Its Correlates**
   Students study both outpatients, including those in the emergency room, and inpatients. This clerkship emphasizes diagnosis, pathophysiology, and general approaches to the treatment of surgical patients, including the special problems of mass casualties, with the student becoming an integral part of the surgical team.
3. **Pediatrics and Human Development and Correlates**
   This quarter includes instruction in the handling of normal and sick infants and children as well as nutrition and relating with parents and other family members; normal development of the baby into childhood and adolescence; diagnosis of birth and developmental defects and general approaches to repair and/or rehabilitation; common infections predominant in infancy and childhood; and peculiarities of the effects of medication in children.
4. **Clinical Neurosciences and Psychiatry and Correlates**
   During this quarter, each student's study of himself and his patients under adequate supervision provides opportunities to learn about normal and abnormal human behavior. Students learn about interrelationships between psychological and physiological processes in both "functional" and organic disease.
5. **Obstetrics, Gynecology, Reproduction, and Correlates**
   In addition to medical and surgical gynecology, obstetrics, and anesthesia, each student studies the physical, psychological, emotional, and social aspects of the problems of human sexual life, marriage, reproduction, and population control.
6. **Half-Quarter Core Elective**
   To increase the flexibility of the core curriculum, each student is offered an elective opportunity early in his or her course of study.
7. **Half-Quarter Clinical Course: Radiology and Pathology**
   Students assume the role of the radiologist in his various functions, permitting them to thoroughly understand the potentialities of radiological sciences in diagnosis and therapy. Students then assume the role of the pathologist in his various functions, with the objective of studying disease processes from the pathologist's viewpoint.

Post-Core Electives (fourth year)

The last year of the curriculum consists of four elective quarters, within the following broad categories:

1. **Medicine,** including its subspecialties, community medicine, and pediatrics;
2. **Surgery,** including its subspecialties, anesthesia, and obstetrics and gynecology;
3. **Sciences basic to medicine,** primarily in their laboratory and research aspects;
4. **A totally free elective,** which may consist of additional work in any of the foregoing areas, study in other schools or campuses of the University, or other educational experience which satisfies the career needs of the student and is approved by his advisor.

The fourteen academic quarters will ordinarily be finished by the student in four calendar years, assuming that he takes two quarters for vacation (or for study outside the M.D. curriculum). It is possible, however, for a student to

finish his required courses in three and one-half calendar years by sacrificing his vacation quarters.

For further information on the medical curriculum, see the current UCI College of Medicine Announcement. This may be obtained by writing to the Medical Student Services Office, College of Medicine, University of California, Irvine; Irvine, California 92664.

Vivian Chang, art major

university officers

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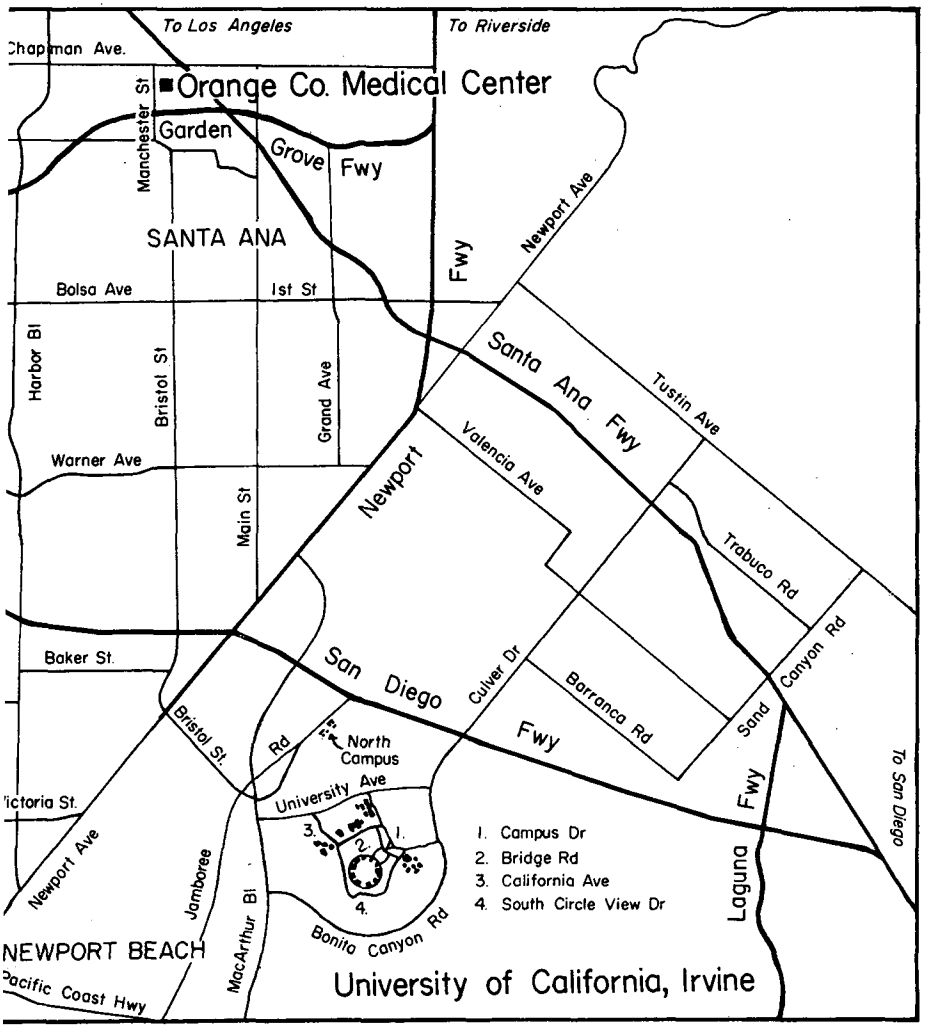
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Orange Co. Medical Center
Manchester St
Garden Grove Fwy
SANTA ANA
Newport Ave
Fwy
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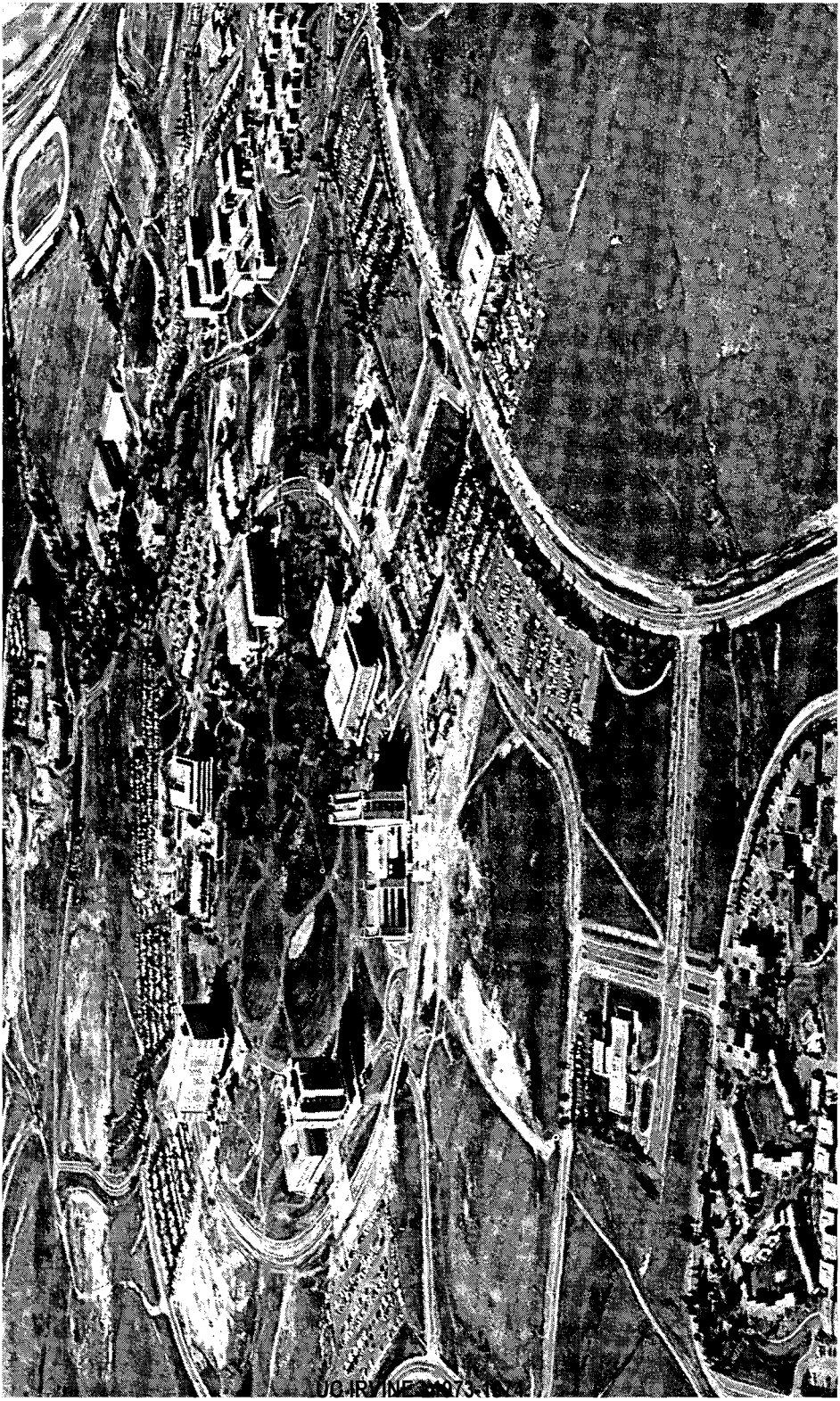
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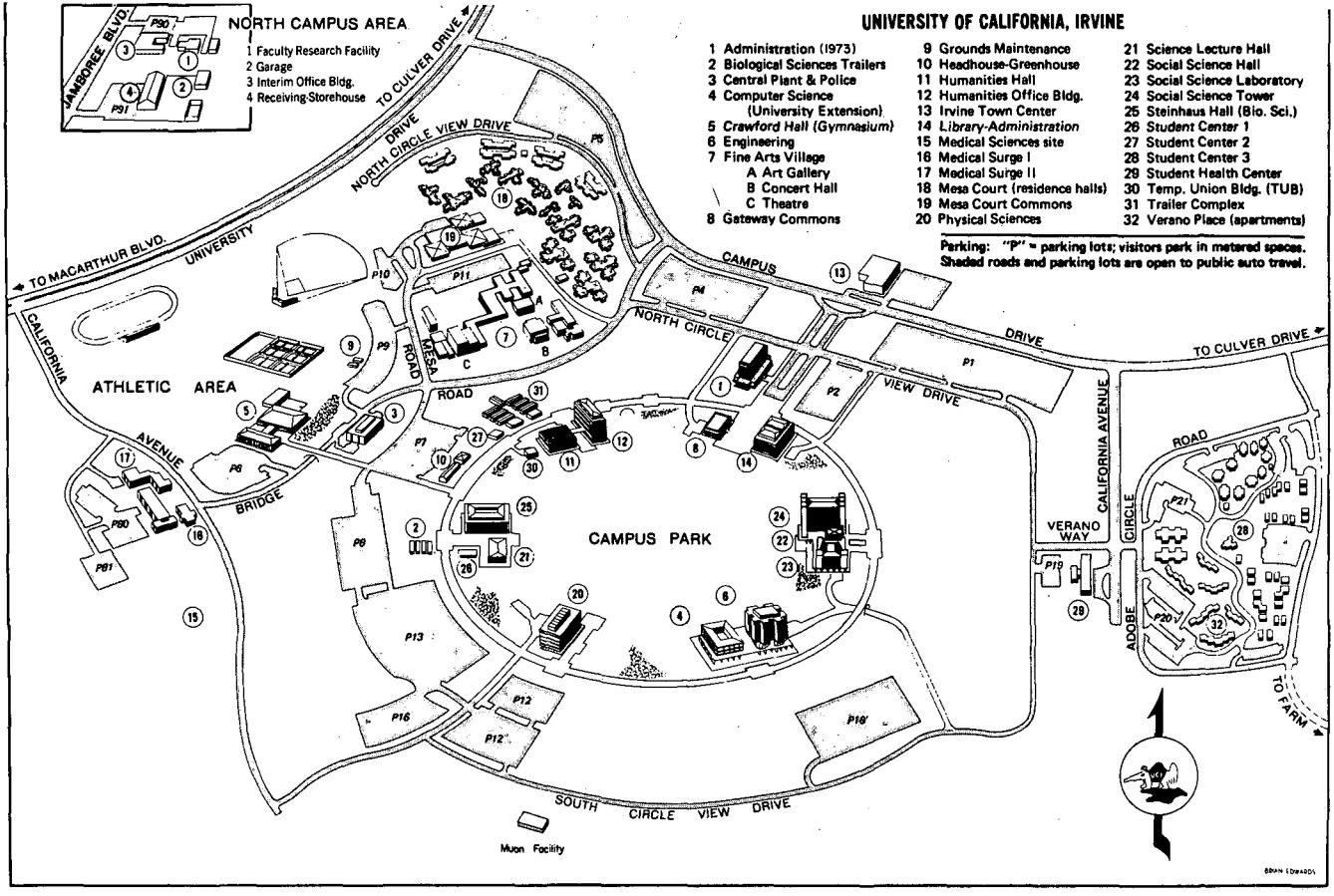

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