



UNIVERSITY OF CALIFORNIA, IRVINE
1967-68 CATALOGUE



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One hundred years in the life of a person is the mark of age, but 100 years in the life of a great idea, civilization, or institution is but a milestone of youth. For the University of California to have achieved in a single century the reputation for excellence which it enjoys throughout the world is a tribute to the vision of the citizens of California and to their support of quality education. In the year of its 100th anniversary, the University reaffirms its dedication to service and its devotion to the search for truth.

HARRY R. WELLMAN

Acting President of the University



Faculty, students, and staff at Irvine recognize that innovation and reform are necessary in both curricular and extracurricular affairs of the American university, if it is to function as a meaningful institution as we approach the twenty-first century.

The 1967-68 catalogue, like its two predecessors, reflects the progress we have made toward serving the particular needs of students and the general needs of a rapidly changing society.

Much effort, experience, knowledge and insight have been invested in organizing the curricula and programs outlined here. Students are free to plan their own academic programs within this structure. Faculty give careful attention to individual advising. But the student himself is given the responsibility for his own academic progress.

DANIEL G. ALDRICH, JR.

Chancellor

Both students and faculty at Irvine have distinguished themselves by their enterprise and cooperation in the task before them. It is our intention that this spirit of freedom and responsibility, and the willingness to challenge, to test and to innovate continue to be characteristic of the Irvine campus.

CALENDAR 1967/1968

FALL QUARTER/1967

Fall Quarter Begins	September 25
Orientation Week Activities	September 25-29
Registration and Enrollment in Classes	September 27-29
Instruction Begins	October 2
Thanksgiving Vacation	November 23-24
Instruction Ends	December 9
Examinations Begin	December 11
Fall Quarter Ends	December 16

WINTER QUARTER/1968

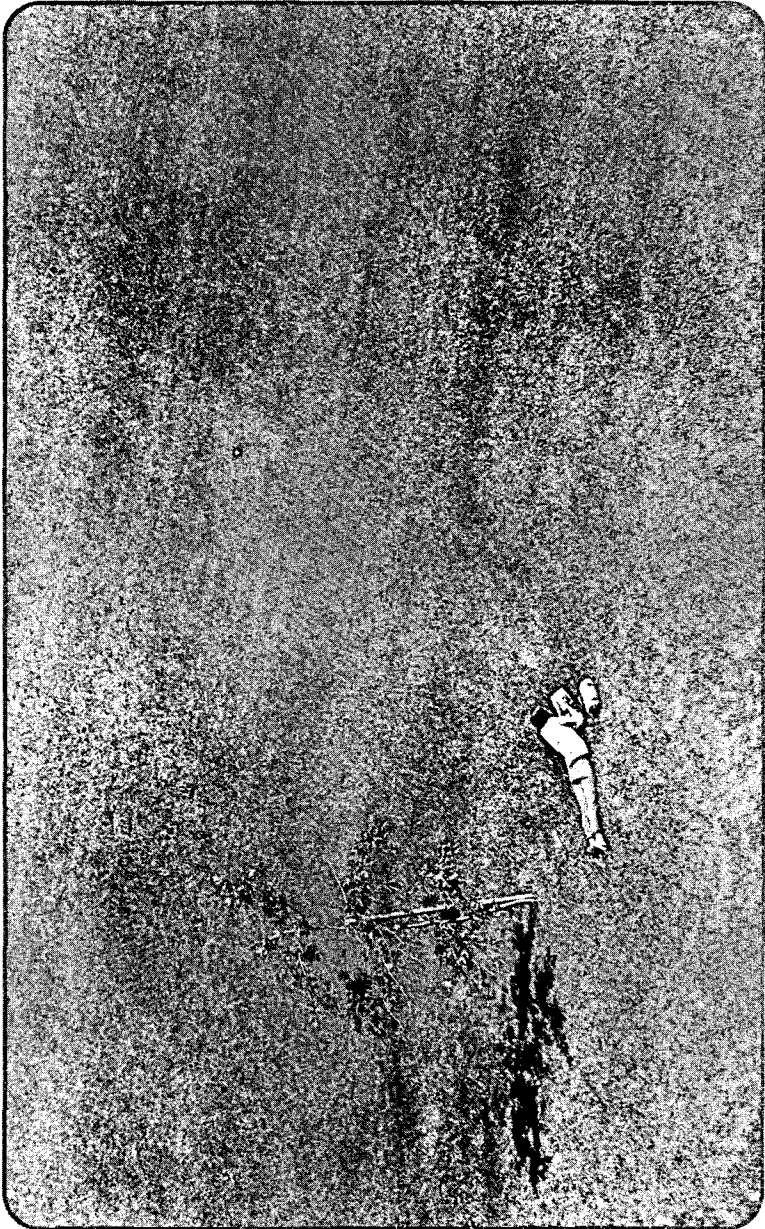
Winter Quarter Begins	January 2
Registration and Enrollment in Classes	January 2-3
Instruction Begins	January 4
Lincoln's Birthday—Holiday	February 12
Instruction Ends	March 9
Examinations Begin	March 11
Winter Quarter Ends	March 16

SPRING QUARTER/1968

Spring Quarter Begins	March 25
Registration and Enrollment in Classes	March 26-27
Instruction Begins	March 28
Spring Holiday	May 3
Memorial Day—Holiday	May 30
Instruction Ends	June 6
Examinations Begin	June 7
Spring Quarter Ends	June 13

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The faculty of the University of California, Irvine, believes that education is a continuing process, not the simple sum of any particular number of years of formal work, and that a university fulfills its purpose when its students learn how to learn. The faculty recognizes that its own intention to help students learn cannot be achieved unless, first, the student understands that the primary responsibility for learning is his own, and, second, there is certainty that the student's time is not being squandered.

It follows that the academic program should include only such curricula as can be most effectively offered in a university environment or are necessary to the student's pursuit of a liberal education. It follows also that academic progress should be thought of not merely, or even necessarily, in terms of courses taken, but in terms of the acquisition of competence and knowledge and the growth of intellectual integrity and creative power. The faculty, therefore, has adopted the principle that credit for many courses can be achieved by means other than the actual taking of the formal course.

Further, by refusing to stipulate a large and complex system of university and college requirements, the faculty has indicated that it envisages many possible avenues by which the student may reach the proper goals. The faculty, in its advisory capacity, will encourage each student to avoid extremes of narrow specialization and superficial generalization, to plan a coherent program with maximum opportunity for independent study, and to use whatever method of instruction and study is most stimulating, efficient, and generally suitable to his subject and to his own abilities.

THE ACADEMIC PLAN

ROGER RUSSELL, *Vice-
Chancellor Academic Affairs*



The College of Arts, Letters, and Science

The College is composed of the Divisions of Biological Sciences, Fine Arts, Humanities, Social Sciences, and Physical Sciences. Programs of the College are designed to develop the qualities long associated with a liberally educated man. In keeping with the assumption that breadth as well as depth deserves to be emphasized, the College faculty will direct students toward scholarly proficiency, concentrated study in some specific area of human understanding, and the experience of more than a single discipline. The faculty assumes that, for many students, a liberal education is the best professional preparation, especially for those who anticipate careers requiring advanced, professional, or graduate study. Students will be able to undertake studies preparing them for graduate work in biological sciences, physical sciences, fine arts, humanities, or social sciences. Students may also prepare for admission to professional schools such as law, medicine, dentistry, engineering, journalism, business administration, nursing, agriculture, or veterinary medicine; or for careers in many aspects of business, teaching, or public affairs.

Requirements for the Baccalaureate

The faculty will expect each student to demonstrate by course work, by examination, or by other means established by the faculty that he has met the requirements of the University, of the College, and of the division and department or interdepartmental program to which he belongs.

The requirements for the baccalaureate are as follows:

UNIVERSITY REQUIREMENTS/

1. ENGLISH:

A score of at least 600 on the College Entrance Examination Board Achievement Test in English,

OR passage of the "Subject A" examination given by the University,

OR successful completion of the noncredit course in English composition (Subject A), for which a fee of \$45.00 is charged,

OR successful completion of equivalent course work elsewhere.

2. AMERICAN HISTORY AND INSTITUTIONS:

Passage of an examination in the subject,

OR presentation of a certificate of completion of the requirement at another California institution.

COLLEGE REQUIREMENTS/

1. All students must complete course work in three divisions outside the major division.

The 3-3-3 Requirement: Students who complete University Studies 1, 2, 3 must take three courses in each of three outside divisions.

The 6-3-3 Requirement: Other students must take six courses in one outside division and three courses in each of two other outside divisions.

2. Credit for 45 courses, earned by examination, by other evaluation, or by course work.
3. A grade average of at least C.
4. Credit, earned in residence on the Irvine campus, for the last three quarters of work immediately preceding graduation.

DIVISIONAL, DEPARTMENTAL, AND INTERDEPARTMENTAL REQUIREMENTS/

As soon as he has determined the area of his concentration, and not later than the beginning of the junior year, the student should enter one of the five Divisions of the College, having made certain that he has the background and preparation necessary to accomplish junior and senior work in that Division. Each Division specifies graduation requirements in addition to those specified by the University and the College. Prerequisites for work in each Division and the departmental and divisional graduation requirements are listed below:

- THE DIVISION OF BIOLOGICAL SCIENCES/*Biological Sciences* 101, 102, 103, 104, 105, 106; one year of college-level physics; mathematics through differential and integral calculus; chemistry through organic chemistry.
- THE DIVISION OF FINE ARTS/*Art*: One year's work in visual fundamentals; one year's work in the history and theory of art; six junior-senior studio courses; five junior-senior courses in the history and criticism of art; three courses in fine arts outside of the departmental major.

Dance: Four years' studio work in ballet and contemporary dance; dance notation; one year's work in theories of dance; two courses in acting; four junior-senior courses in the theory and history of dance, including 120A, 120B, 120C; three junior-senior courses in choreography; and participation in performances.

Drama: One year's work in the development of dramatic art (40ABC); one year in acting (30ABC); *Drama* 100ABC; four junior-senior studio courses; four junior-senior courses in the history and criticism of drama; three courses in fine arts outside of the departmental major, including two consecutive quarters of dance; and participation in at least two productions a year.

Music: Two years' work in theory; *Music* 5 ABC; *Music* 15 ABC; one year's work in the history and literature of music; one year's work in counterpoint; one year's work in form and analysis; three junior-senior courses in the history and criticism of music; command of piano; three courses in fine arts outside of the departmental major; participation in the chorus, or the 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.

Fine Arts (interdisciplinary major): Any two of the following programs plus three junior-senior studio courses and participation in productions, concerts, or exhibits. Interdisciplinary majors must have the approval of the departmental chairmen involved.

Art: One year's work in visual fundamentals; one year's work in the history and theory of art; three junior-senior courses.

Dance: One year's studio work in ballet; one year's studio work in contemporary dance; two courses in the history and criticism of dance; three junior-senior courses.

Drama: One year's work in the development of dramatic art; one course in acting; one course in scene design; one course in costume design; three junior-senior courses.

Music: Command of piano; one year's work in theory; one year's work in the history and literature of music; three junior-senior courses.

- THE DIVISION OF HUMANITIES/*Divisional Requirements:* *English* 5, 10, 15 or the equivalent; competence equivalent to two years of college work in a single foreign language; three courses in history; two courses in philosophy.

Departmental Requirements:

Comparative Literature: Sufficient competence in a foreign language, either modern or classical, 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. About ten literature courses beyond Freshman English, of which eight must be at the junior-senior level. Formally these will include *English 100*, *English 182*, and appropriate study in English and American literature, literature in foreign languages, and special courses in Comparative Literature as recommended by the student's advisor. Through consultation with the advisor, election of an area of concentration consisting of a foreign language and literature, either ancient or modern, for examination at the time of his senior comprehensive examination. Passing performance in the senior comprehensive examination in Comparative Literature, details of which may be obtained from the Comparative Literature committee.

CLIA

English: English 182, English 100 (taken twice) plus about six courses in English or drama of which five should be at the junior-senior level (for those emphasizing the art of writing program, seven courses in English, including writing, as advised); one course in a foreign literature when texts are read in the original language; *English 189* (the Senior Seminar) or *Wr 125* (the Senior Workshop in Writing); the Senior Comprehensive Examination.

Foreign Languages and Literatures: Two courses in composition and grammar; one course in phonetics; one course in civilization; a minimum of nine courses in literature of which six must be at the junior-senior level; one course in linguistics; the senior comprehensive examination.

History: One year of general European History, normally 10A-10B-10C; one year of American History, normally 50A-50B-50C; one year of Asian or Latin-American History; one course in historiography; five courses in history on the junior-senior level including *History 179*; the senior seminar in history.

Philosophy: History of Philosophy 20A-B-C and six junior-senior courses including metaphysics and epistemology.

- THE DIVISION OF PHYSICAL SCIENCES/*Divisional Requirements:* Knowledge of Russian, German, or French equivalent to that gained in six quarters of instruction; ability to express ideas in written English with clarity and precision.

Departmental Requirements:

Chemistry: One year of general chemistry, *Chemistry* 1 or 11 or equivalent; one year of organic chemistry, *Chemistry* 51 or equivalent; one year of physical chemistry, *Chemistry* 131 or equivalent; three one-quarter courses in quantitative chemistry, *Chemistry* 71, *Chemistry* 151, and *Chemistry* 152, or equivalent; three more courses in chemistry elected from those numbered 160-233 of which *Chemistry* 180 may not be counted more than twice; in addition, twelve courses to be chosen from the offerings in mathematics, physics, and biological sciences including: a) at least one year of calculus, and b) at least one year of college-level physics for which calculus is either a prerequisite or co-requisite. (Neither *Physics* 3 nor *Information and Communication Science* 1 meet the above requirements.)

Mathematics: Two years (six courses) of calculus, plus nine upper-division courses in mathematics.

Physics: *Physics* 5A, 5B, 5C, 5D, 5E, and eight courses numbered between 110 and 190, including two quarters of advanced laboratory (151-154); *Mathematics* 2ABC, 3ABC, and 100ABC. Recommended options: *Chemistry* 1ABC; *Biological Sciences* 1ABC.

- THE DIVISION OF SOCIAL SCIENCES/Divisional requirements are stated generally in terms of knowledge possessed rather than courses taken. In planning his program, however, the student may find it useful to think in terms of three clusters of work:

Freshman-Sophomore Work: *Social Sciences* 1A, 1B, 1C, and three courses (including one in major) chosen from the following: *Anthropology* 1, *Economics* 1, *Geography* 1, *Political Science* 1, *Psychology* 1, and *Sociology* 1.

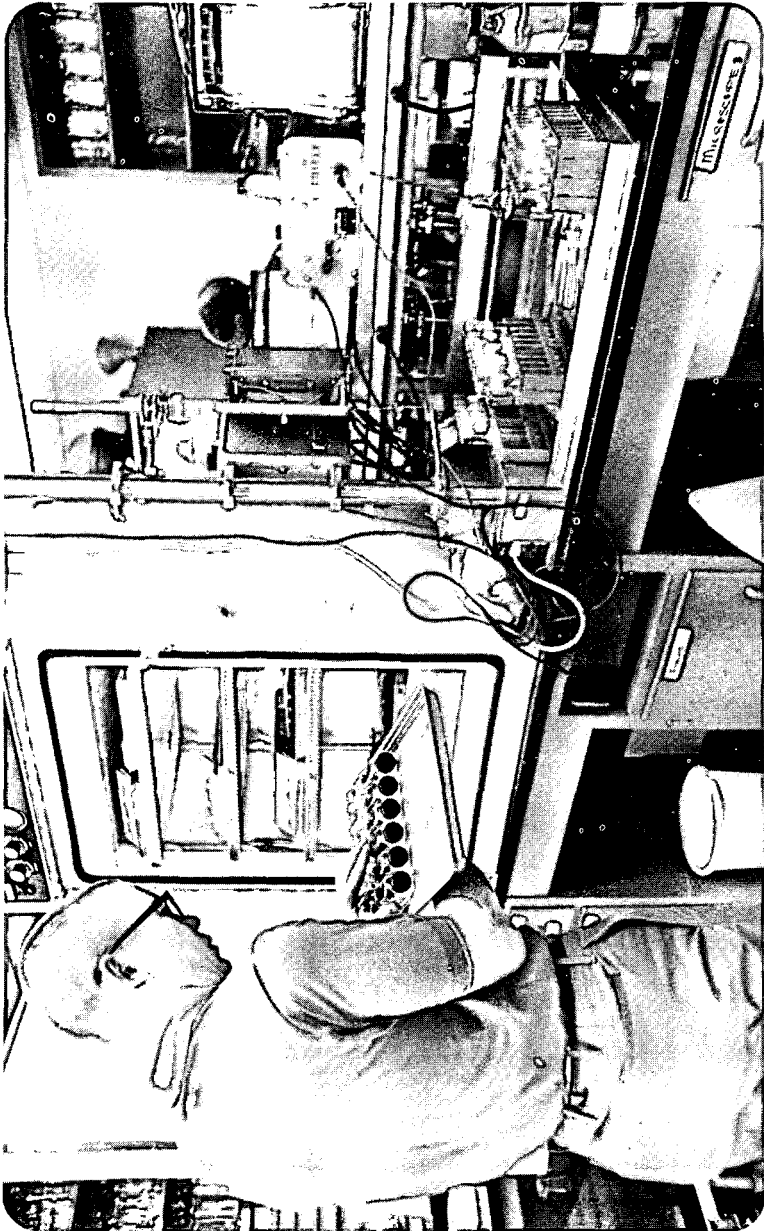
Junior-Senior Work: Satisfactory performance on the junior examination (a three-course sequence in the field of concentration—the 100A-100B-100C sequence—is the normal method of preparation) and two senior research papers in the area of concentration (a three-course sequence—the 190A-190B-190C sequence—is the normal method of preparation).

Quantitative Methods: Six courses in mathematics (*Mathematics* 5A, 5B, 5C, 6A, 6B, 6C); one course in computer science (*Information and Communication Science* 1); two courses in additional mathematics, statistics, or mathematical social science.

Proficiency in English & Foreign Languages

There are no College requirements in English composition for all students at UCI (though it is required by some divisions), but the ability to write well is a basic requirement for all course work. Students who are reasonably competent in the use of English would profit from additional study with the aim of further improving their writing. Students who transfer elsewhere from UCI should have taken English composition, since formal instruction in this subject is a graduation requirement of almost all universities.

There are no College requirements in foreign languages for all students at UCI (though it is required by the Division of Humanities and the Division of Physical Sciences), but the ability to read French, German, or Russian is a requirement of most graduate schools. Students who transfer elsewhere from UCI should have included a foreign language in their programs, since knowledge of a foreign language equivalent to two years of college-level is a requirement for the baccalaureate in almost all colleges of arts, letters, and science, including those of the other campuses of the University of California.



The Division of Biological Sciences reflects the new concepts of biology in both its curriculum and its research program. The faculty, the methods of teaching, the content of courses, and the facilities are dedicated to providing each student with the opportunity to avail himself of the ever-increasing knowledge of the facts and principles of biology. At both the graduate and undergraduate levels traditional administrative rigidity has been relaxed in order to maintain continuing interaction between classroom education and research, between departments and individuals. The curriculum, both undergraduate and graduate, is characterized by the greatest flexibility in meeting the present needs not only of the biology major but also of students in other disciplines. It is designed for the professional biologists as well as for those aspiring to other related professions such as agriculture and medicine, and for those desiring a continuing education. In keeping with the responsibilities of the University in research, the Division maintains a strong and emphatic investigative program. This is accomplished without detriment to the instructional program; indeed, teaching and research are so intertwined and supportive to each other that students and faculty alike (as well as society) are beneficiaries of the research. In addition to teaching and research, the Division takes seriously its additional objective to provide and to engage in public service in the spirit of the Land Grant mandate.

THE DIVISION OF
BIOLOGICAL
SCIENCES

EDWARD A. STEINHAUS, *Dean***

2

In a very general way, from an instructional standpoint, our divisional organization may be represented by the following diagram:

**On leave. James L. McGaugh, Acting Dean for 1967-68. Patrick L. Healey, Associate Dean.

Departmental Instructional Responsibility	GRADUATE AND SPECIAL UNDERGRADUATE COURSES IN :			
	Molecular and Cell Biology	Organismic Biology	Population and Environmental Biology	Psychobiology
Divisional Instructional Responsibility	UNDERGRADUATE CORE FOR MAJORS AND NONMAJORS			

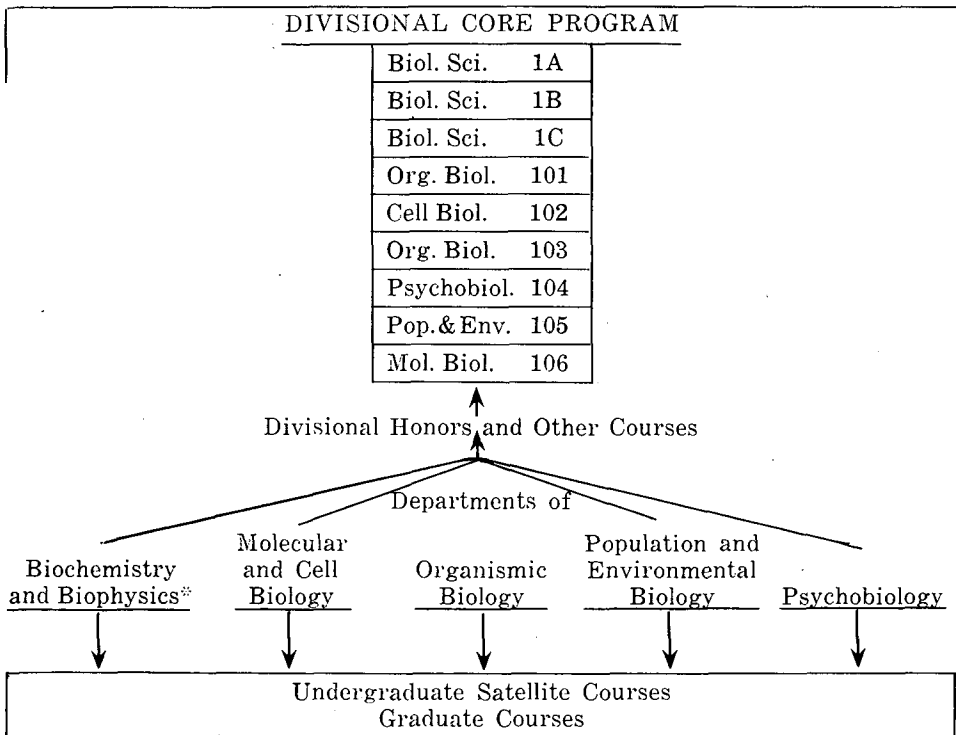
Experience of the past two decades has revealed serious problems in the organization and presentation of the life sciences. The traditional program, followed by many schools, subjects a student to beginning courses in each of the numerous branches or subdivisions of biology, including bacteriology and immunology, biochemistry, botany, entomology and parasitology, genetics, molecular biology, paleontology, physiology and anatomy, zoology, et cetera. The sense of unity among these sciences is keenly felt; yet marked diversities are evident. The diversities are so great that (as an example) the differences between certain areas of molecular biology and certain areas of population biology are far greater than the differences between, let us say, chemistry and physics. In order to recognize the unifying themes of the biological sciences, many universities and colleges have attempted to telescope all of the biological disciplines into a single department of biology. By so doing, it was thought that the great proliferation of special departments (e.g., zoology, botany, physiology, microbiology, genetics, etc.) and the evils thereof, could be avoided. Unfortunately, the spectrum of the life sciences is so great that such telescoping results in either an inordinately large and unwieldy department of biology or in a smaller department of inadequate breadth and depth that frequently materializes into essentially a department of zoology.

At UCI our divisional administrative structure enables us to have the best of two worlds—the benefits of both unity and diversity are realized by having the solidity of the undergraduate Core program and the diversity of the departmental specializations at the upper division and graduate levels. Thus for the undergraduate major the biological sciences are presented as a continuum in a central Core program, surrounded by satellite courses for those undergraduates desiring a particular or special emphasis. This is accomplished by the cooperation of all departments in the Division (Molecular & Cell Biology, Organismic Biology, Population and Environmental Biology, and Psychobiology), each of which contributes by the way of resources and teaching load. In return, the departments are relieved of the responsibility of generating their own introductory and basic biology courses. At the

graduate level, each department structures its own course offerings, and specializations of virtually any kind (commensurate with the disciplinary breadth of the faculty) are available.

ONE WAY OF DEPICTING THE UCI CONCEPT

DIVISION OF BIOLOGICAL SCIENCES



*To begin in 1968-69.

The major in biological sciences should have some understanding of the tremendous impact biology is now exerting upon matters of public policy and society in general and the importance of society's reaction to these discoveries. He should, therefore, avail himself of the broad opportunities allowed by the curriculum to study in other divisions of the College. By the same token, students in other disciplines should realize that a knowledge of the basic principles of the life sciences is necessary for a proper understanding of the world in which they live. The impact of

the biological sciences upon human affairs during the coming years is certain to be very great. It is important to the future welfare of mankind that educated men and women appreciate the contributions of the biological sciences to man's intellectual development, material progress, and ethical and esthetic senses.

The rapid increase, turnover, and overlapping of information in the biological sciences since mid-century make it futile to define distinctly a specific body of biological knowledge. For this reason, and because of the current revolution in the organization and realignment of the numerous biological sciences, UCI's pedagogical approach and departmental organization recognize several levels of biology and those well-established themes which give biology its pattern, texture, and unifying concepts. The levels include molecules, subcellular organelles, cells, tissues, organs, organ systems, organisms, populations, communities, ecosystems, and the biosphere. They are to some degree reflected in the Division's present departmental organization: Molecular and Cell Biology, Organismic Biology, Population and Environmental Biology, and, in addition to these, the Department of Psychobiology, which is concerned with the biological significance and bases of behavior. The themes weaving through these "levels" include evolution and genetic continuity, regulation and homeostatic adaptations, structure and functions, complementarity of organism and environment, and others. These themes unify the levels and areas of biology—in the past all too rigidly separated and grouped according to whether their subject matter was animal, plant, or microbial.

More detailed information, including course descriptions, is offered in a separate publication *A Guide to the Biological Sciences*, which may be obtained from the Divisional Office.

Undergraduate Program

In addition to what has been said in the preceding paragraphs, which applied to undergraduate as well as graduate instruction, an additional point or two should be made regarding undergraduate instruction as such.

Both the major and nonmajor should consider biology as an integrated whole. Neither student should be subjected to beginning courses in each of the numerous branches or subdivisions of biology. Instead, he should gain a solid overview of unifying concepts. This is doubly important in the case of the biology major who intends later to specialize in a particular area or branch of biology. The Division offers a three-year Core of courses for all biology students, regardless of subsequent graduate specialization, whether it be in biological sciences, teaching,

medicine, agriculture, or some other field. The Division is vitally concerned that its offerings be readily available to students in any and all disciplines. The first year of the Core is designed with the nonmajor, as well as the major, in mind, and great effort is made to make biology meaningful to the student majoring in another discipline.

As already indicated, at the undergraduate level there is a minimum of departmentalization. The core courses are taught by teams of instructors from the several departments, each dealing with an area of his particular skill and interest, but with no attempt to delimit instruction artificially on the basis of a particular instructor's special interest. The introductory course is taught by a cadre of at least four instructors representing the four departmental areas. The biology major may begin study with the same introductory year of courses (1A-1B-1C) as that taken by the nonmajor. Any one of the three quarters of the introductory year, or all three quarters, may be omitted if the student feels that he does not need this course and if he has the necessary prerequisites to commence *Biological Sciences 101*. The major should begin as soon as possible to fulfill his requirements in the physical sciences and mathematics. He should carefully select and begin to complete his requirements in the other divisions.

The Core curriculum continues in a progressive spiral fashion from molecular biology and biochemistry through cell biology; tissue, organ, and organismic biology; psychobiology; population, community, and environmental biology. The courses are characterized by a sequential ordering of content with greater emphasis on the unity—and less on the diversity—among living organisms than has been the case in the past. While the core curriculum in a general way is administered by the Division with the cooperation of the several departments, undergraduate special subject-matter courses (primarily on the junior-senior level), service courses, or other satellite courses may be offered and administered by the various departments.

The entire instructional program in the Division is constantly undergoing evaluation and reappraisal by instructors, students, and special committees.

TRANSFER STUDENTS: Students who transfer to the Division from other accredited institutions will be given credit for the work they have done elsewhere. Wherever they have the opportunity, students intending to transfer are advised to elect the more broadly based biological courses and intensified prerequisites and to postpone specialization within biology until their junior and senior years.

MEDICINE, DENTISTRY, NURSING AND VETERINARIAN/PREPROFESSIONAL TRAINING: A student who plans to enter a school of medicine, dentistry, nursing or veterinary science may receive his required preprofessional training on the Irvine campus. This preprofessional training may be accomplished by (a) completing the professional major (i.e., the Core curriculum) in biological sciences, or (b) majoring in any division or department but fulfilling concurrently the specific course requirements of the medical, dental, nursing or veterinary school he expects to attend. A few schools request specific additional requirements (e.g., English, foreign language, physical science); *a student should, therefore, check early with the professional school he seeks to enter.*

More than 90 per cent of the students admitted to medical schools in the United States have attained the A.B. or B.S. degree, and a large percentage of those admitted to dental schools have had three or more years of undergraduate work—this despite the fact that technically it is possible under the regulations of the American Medical Association and the American Dental Association for a school to admit students who have had as few as two years premedical or preidental training. Leaders in medical, dental, and veterinary education urge prospective students to arrange their programs so that they will obtain a liberal education, since the humanities and social sciences are not offered by the professional schools. They, therefore, recommend that students preparing to seek admission to medical or dental school plan to obtain a bachelor's degree. Rather than require their students to have taken specific premedical courses, many medical and dental schools now prefer that their students come to them having the type of basic training in the biological sciences (with prerequisites in physical sciences, social sciences, and humanities) offered at Irvine.

Graduate Programs

Graduate instruction, under the general jurisdiction of the Graduate Division, is administered in the Division of Biological Sciences by each of the several departments in the Division. (See curriculum of each department for course listings.) The student selects one of these departments in which to major, but he may take courses in any one or all of the departments and confer freely with any professor in any department.

Scholarship requirements for students entering the graduate program in Biological Sciences at UCI conform to those established by the Graduate Council of the Academic Senate and to those of the University in general. Approval by the staff members of the department concerned, following careful review of the grades, letters of recommendation, and other qualifications of the applicant, is also required.

In most departments of the Division, a two-man committee is assigned to each student upon entrance. This committee, in consultation with the student, will outline a program of study. In the course of the first two years, the student will seek out his area of interest and commence some research activity. The staff member who is supervising his research will join the committee and assume the major responsibility for further guidance. He will take on the role of the student's prospective major professor.

At the appropriate time, the student's formal doctoral committee will assume guidance for the remainder of the work.

THE MASTER OF ARTS IN BIOLOGICAL SCIENCES

A program of study for a Master of Arts in Biological Sciences is offered as either Plan I or Plan II.

PLAN I: THESIS PLAN

1. A reading knowledge of one foreign language (German, French, Russian, and, in some cases, Spanish).
2. Seven approved courses (i.e., graduate and upper-division undergraduate courses, including a minimum of five regular non-research courses).
3. A thesis (usually based on original research).

PLAN II: COMPREHENSIVE EXAMINATION PLAN

1. A reading knowledge of one foreign language (German, French, Russian, and, in some cases, Spanish).
2. A minimum of nine courses of graduate and upper-division undergraduate courses, of which at least five must be in the 200 series courses in the specialization or major.
3. A comprehensive final examination in the major subject, its kind and conduct to be determined by the department concerned.

THE DOCTOR OF PHILOSOPHY IN BIOLOGICAL SCIENCES

A student may pursue the Ph.D. directly without first attaining the M.A. The language requirement will normally be satisfied by examining the student with regard to his reading proficiency in two foreign languages (usually French, German, or Russian), or as to his ability to read and speak one appropriate foreign language. Ordinarily, not later than the second year of residence, the student will be requested by his department to take a single written or oral test. This test constitutes the *first part of his qualifying examination*. If he passes this test, then shortly afterward (i.e., usually within the same or succeeding quarter) he is given the second (oral) part of his qualifying examination by his doctoral committee. If this examination is passed and the student admitted to candidacy, he may formally commence his

dissertation research. Normally, it is expected that by this time some of his research would be underway. After presentation of the dissertation, the candidate is subject to an oral examination in defense of the dissertation.

The qualifying examination is given at two levels of competence. The first level will contain questions which all students are expected to answer and will test their broad knowledge of the unifying aspects of biology. The content of the second level examination will vary with the student's field of interest or specialization.

FIRST LEVEL OF COMPETENCE

The following first-level competency requirements must be met by all first-year graduate students:

All first-year graduate students will be required to attend a weekly colloquium. The speaker at this colloquium will usually be chosen from among all departments of the Division; when deemed appropriate, outside speakers will be invited to present a colloquium.

At the end of each quarter there will be an examination, which will cover the talks given during the term.

Departments will be given the scores of their students on all questions. Final evaluation of the student will, as in the past, rest with his own department.

SECOND LEVEL OF COMPETENCE

Here the student is questioned within the field or fields of his special interest. As already indicated, there is not a fixed set of fields from which the student makes a choice. Rather the field or fields in which a student is tested are based upon the particular student's interests. For example, a student might be examined in one of the following fields or combinations of fields:

Behavior	Invertebrate Biology
Biochemistry	Marine Ecology
Cell Biology	Microbiology
Comparative Physiology	Neurophysiology
Developmental Biology	Parasitology
Ecology	Pathobiology
Environmental Biology	Plant Morphology
Evolution	Population Genetics
Genetics	Psychobiology
Ichthyology	Systematics and Taxonomy
Immunology	Virology

The questions are designed to test both the student's general knowledge over the extent of his field or fields as well as detailed knowledge of his special interests within the area.

Courses of Study

HONORS PROGRAM :

At the end of each quarter a Dean's List, composed of all our students who have made a GPA of 3.5 or better during the preceding quarter, is posted on the divisional bulletin board.

As part of the Honors Program, the Division offers an invitational honors course (*Biological Sciences 192H*). See description on page 00. The contents of this course will vary from year to year. Any student interested in this program may be considered by submitting his name to the Divisional Office of Student Affairs.

All honors students majoring in the biological sciences are eligible to enroll in other honors or special courses (197H, 198H, or 199). Students enrolled in courses 197H and/or 198H must take at least three quarters and must pass an oral examination at the end of their last quarter.

Graduation with honors may be recommended for those who maintain their standing as honor students throughout their last two years, satisfactorily complete the honors courses, and pass the comprehensive examination. The Honors Program advisor will help plan each honor student's Honor Program individually, and his approval of their programs will be required.

THE DIVISIONAL UNDERGRADUATE CORE CURRICULUM Under the Supervision of the Division

(See programs of separate Departments in the Division for special offerings and "satellite" and graduate courses.)

1A-B-C *Introductory General Biology* (1-1-1)

Lectures and laboratory.

This three-quarter course is taken by nonmajors (freshmen through seniors) and is recommended for majors in the biological sciences. Designed as terminal course for nonmajors.

1A (1) fall

Prerequisites: None. Introduction to the fields of cell biology and molecular biology with an emphasis upon the role of these sciences in modern medical research. Topics to be covered are: cellular structure; proteins and their function in cellular structure and metabolism; DNA, the molecular basis of heredity; cellular and molecular approaches to the problems of infectious disease, immunological diseases, and cancer.

1B (1) winter

Prerequisites: None. Concept of the life history or life cycle of an organism and the analysis of the features of the various events in the life history of an organism. Emphasis will be placed on aspects of human biology as well as the flowering plants.

1C (1) spring

Prerequisites: None. The nature of psychobiology, behavior,

memory storage and retention, intelligence, nervous system, sensory processes, systematics, evolution, population dynamics, community development, man and the use of ecosystems, marine ecology.

- 101-106 Required courses for all majors in the biological sciences. Ordinarily, courses 101 through 106 are taken in sequence. Prerequisites: *Introductory General Biology* 1A-B-C or equivalents, and in most cases the student should have completed, or be taking concurrently with this part of the core, the following physical sciences requirements: *Chemistry* 1A-B-C, *Organic Chemistry* 51A-B-C, *Mathematics* (*Calculus* 2A-B-C, or, in some cases, *Math* 5A-B-C), *Physics* 3A-B-C (or *Physics* 5A-B-C). *Physical Chemistry* 131A-B-C is desirable for 106.
- 101 *Organismic Biology* (Structure and Function) (1) fall
Lectures and laboratory.
- 102 *Cell Biology* (1) winter
Lectures and laboratory.
- 103 *Organismic Biology* (Growth and Development) (1) spring
Lectures and laboratory.
- 104 *Psychobiology* (1) fall
Lectures and laboratory.
- 105 *Population and Environmental Biology* (1) winter
Lectures and laboratory.
- 106 *Molecular Biology* (1) spring
Lectures and laboratory.

THE DIVISIONAL HONORS AND SATELLITE COURSES
(Not a part of the core)

- 192H *Honors Seminar in General Biology* ($\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$) fall, winter, spring
Enrollment by invitation only.
- 197H *Special Study for Honors Students* (1) fall, winter, spring
Prerequisite: Enrollment limited to honors students. Independent research and/or reading on selected subjects.
- 198H *Honors Thesis* (1) fall, winter, spring
Prerequisite: Course 197H. Preparation of comprehensive thesis incorporating studies undertaken in Course 197H.
- 180 *The Biological Sciences and Public Policy* (1) winter
Prerequisites: A college course in biological sciences. A consideration of the impact of 20th-century biological sciences upon public policy, the humanities, the arts, the social sciences, and other areas of human endeavor and personal conduct.
- 290 A-B-C *Division of Biological Sciences Colloquium* ($\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$) fall, winter, spring
Required of all first-year graduate students. Open to all biological sciences students. Staff members will discuss their major fields of research interest.

■ *Department of Molecular and Cell Biology*

JOHN J. HOLLAND, *Professor of Microbiology and Chairman of the Department*

GALE A. GRANGER, *Assistant Professor of Microbiology*

LELAND H. HARTWELL, *Associate Professor of Biochemistry*

CALVIN S. MCLAUGHLIN, *Assistant Professor of Biochemistry*

WENDELL M. STANLEY, *Assistant Professor of Biochemistry*

CLIFFORD A. WOOLFOLK, *Assistant Professor of Microbiology*

DANIEL L. WULFF, *Assistant Professor of Biochemistry*

AREAS CONCERNED: The activities of this department include the disciplines of cell biology, biochemistry, biophysics, microbiology, virology, cell physiology, molecular genetics and cytogenetics, and molecular biology generally. Such subjects as cell growth and development, fine structure, physiochemical organization, cell pathology, homeostatic mechanisms (including energetics and steady-states), cell ecology, and evolutionary potential are among other emphases in graduate courses.

SATELLITE COURSES

- 120 *Microbial Genetics* (1) spring
Prerequisite: *Biological Sciences* 102 or consent of instructor.
- 121 *Immunology* (1) winter
Prerequisite: *Biological Sciences* 1A or equivalent and a minimum of one quarter of chemistry. *Biological Sciences* 101 *Molecular and Cell Biology* desirable.
- 122 *Microbial Physiology* (1) winter
(This course will alternate every other year with Course 202.)
Prerequisite: Organic chemistry and participation in Core program.
- 123 *Cell Biology—Animal Virology* (1) fall 1968
(This course will alternate every other year with Course 205, which is an advanced course on the same topic.)
Prerequisite: Upper division and participant in core program.
- 125 *Enzymology* (1) spring 1967
(This course will alternate every other year with Course 206.)
Prerequisite: *Molecular Biology* 106 or equivalent.
- 199 *Special Study for Advanced Undergraduate Students in Molecular and Cell Biology* (1-1-1) fall, winter, spring
Selected research topics; including preparation of a term paper. Other types of projects (such as the preparation of a comprehensive review paper) may be arranged. May be taken under the supervision of any instructor; instructor's prior permission required. Normally taken during senior year; may be taken during junior year.

GRADUATE COURSES

- 200 A-B-C *Research in Molecular and Cell Biology* ($\frac{1}{2}$ to $1\frac{1}{2}$ per quarter) fall, winter, spring
A limited number of qualified graduate students will be admitted with the approval of the staff.
- 201 A-B-C *Seminar in Molecular and Cell Biology* (1-1-1) fall, winter, spring
Advanced study in various fields of molecular and cell biology. Topics will vary from year to year. Emphasis on recent literature.
- 202 *Advanced Microbiology* (1) winter 1968
(This course will alternate every other year with Course 122.)
Prerequisite: Equivalency of core or a general course in microbiology and organic chemistry and approval of staff.
- 204 *Biochemistry* (1) spring
To be offered in even numbered years.
Prerequisite: Equivalency of core and approval of staff. Lecture and discussion course including literature review and student reports.
- 205 *Cell Biology—Animal Virology* (1) fall 1967
(This course will alternate every other year with Course 123, which is an upper division satellite course on the same topic.)
Prerequisite: Approval of staff. Lecture and discussion course including literature review and student reports.
- 206 *Cell Physiology* (1) winter
Prerequisites: A course in biochemistry and one in microbiology or consent of instructor.
- 207 *Advanced Biochemistry* (1) winter
Selected topics in advanced biochemistry. Open to graduate students or selected advanced undergraduates by permission only.
- 208 *Physical Chemistry of Macromolecules* (1) spring
To be offered in odd-numbered years.
Prerequisite: Consent of instructor. Lecture and discussions concerning techniques available for investigating physical properties of biologically important macromolecules such as proteins and nucleic acids.
- 209 *Advanced Immunology* (1) winter
- 290 A-B-C *Colloquium in Molecular and Cell Biology* ($\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$) fall, winter, spring
Presentation of contemporary research problems in molecular and cell biology and related areas. Lecturers or invited speakers will introduce research and review topics.

■ *Department of Organismic Biology*

GROVER C. STEPHENS, *Professor of Biological Sciences and Chairman of the Department*

JOSEPH ARDITTI, *Assistant Professor of Biological Sciences*

RICHARD D. CAMPBELL, *Assistant Professor of Biological Sciences*

PETER S. DIXON, *Professor of Biological Sciences*

RALPH W. GERARD, *Professor of Biological Sciences, Dean of the Graduate Division, and Director of Special Studies*

PATRICK L. HEALEY, *Assistant Professor of Biological Sciences*

DONALD R. KAPLAN, *Assistant Professor of Biological Sciences*

STUARD M. KRASSNER, *Assistant Professor of Biological Sciences*

AREAS CONCERNED: Organismic biology is concerned with the structure, function, and developmental biology of plants and animals and with such fields as symbiosis and pathobiology. Undergraduate and graduate instruction in these areas is offered. Problems as diverse and as challenging as differentiation, transport mechanisms, hormonal integration, immune responses, and biological rhythms are at the cutting edge of the field. In attacking them we must use principles of biology at all levels from molecular to population. This is simply to say that the ultimate relevance of advances in biology at whatever level must rest on their capacity to illuminate the form and function of the individual organism.

SATELLITE COURSES

- 130 *Invertebrate Zoology* (1) winter
Prerequisite: One year elementary biology, zoology, or botany; upper division or graduate registration and consent of instructor. Lectures and laboratory.
- 131 *Comparative Animal Physiology* (1) fall
Prerequisite: One year biology and organic chemistry; upper division or graduate registration and consent of instructor. Lecture and laboratory.
- 132 *Comparative Morphology of Vascular Plants* (1) spring
Prerequisite: One semester botany or biology; upper division or graduate registration and consent of instructor. Lectures and laboratory.
- 133 *Symbiosis* (1) spring
Prerequisite: One year biology (one semester organic chemistry desirable); upper division or graduate registration and consent of instructor. Lectures and laboratory.
- 134 *Cytology* (1) winter
Prerequisites: *Biological Sciences* 101 or equivalent. Lectures and laboratory.

- 135 *Introduction to Plant Physiology* (1) winter
Prerequisites: Biological Sciences 1B, or 101, or equivalent courses in general botany or biology, or consent of instructor. Lecture and laboratory. Fundamental processes of plant functions.
- 136 *Advanced Topics in Developmental Biology* (1) winter
Prerequisites: Biological Sciences 103 or equivalent.
- 199 *Special Study for Advanced Undergraduate Students in Organismic Biology* (1-1-1) fall, winter, spring
Selected research topics, including preparation of a term paper. Other types of projects (such as the preparation of a comprehensive review paper) may be arranged. May be taken under the supervision of any instructor; instructor's prior permission required. Normally taken during senior year; may be taken during junior year.

GRADUATE COURSES

- 200 A-B-C *Research in Organismic Biology* ($\frac{1}{2}$ to $1\frac{1}{2}$ per quarter) fall, winter, spring
Prerequisites: Graduate registration and consent of instructor.
- 201 A-B-C *Seminar in Organismic Biology* (1-1-1) fall, winter, spring
Advanced study in various fields of organismic biology. Topics will vary from year to year. The program for 1967-68 will include seminars in:
- | | |
|-----------------------------------|-----------------------------------|
| (a) Comparative Animal Physiology | (e) Topics in Theoretical Biology |
| (b) Developmental Biology | (f) Plant Physiology |
| (c) Pathobiology | (g) Cytology and Ultra-structure |
| (d) Plant Growth and Development | |
- 232 *Comparative Morphogenesis of Vascular Plants* (1) spring 1967
Alternate years
Prerequisites: Graduate standing, *Biology* 132 or equivalent courses in elementary plant morphology or anatomy, or permission of instructor.
- 290 A-B-C *Colloquium in Organismic Biology* ($\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$) fall, winter, spring
Presentation of contemporary research problems in organismic biology and related areas. Lecturers or invited speakers will introduce research and review topics.

■ *Department of Population and Environmental Biology*

ARTHUR S. BOUGHEY, *Professor of Biological Sciences and Chairman of the Department*

PETER R. ATSATT, *Assistant Professor of Biological Sciences*

GILBERT W. BANE, *Assistant Professor of Biological Sciences*

DAVID WILLIAM GOODALL, *Professor of Biological Sciences*

KEITH E. JUSTICE, *Associate Professor of Biological Sciences*

HERBERT P. RILEY, *Visiting Professor of Biological Sciences*

ROBERT H. WHITTAKER, *Professor of Biological Sciences*

AREAS CONCERNED: The areas of interest in the Department of Population and Environmental Biology include the environmental and genetical relations of populations and the structure and functions of ecosystems. Directions of specialization within this area include population dynamics and population genetics, evolution and adaptation, biogeography and paleoecology, taxonomy and systematics, analysis of plant and animal communities, problems of the effect of man on his environment, ichthyology and marine ecology. These diverse specializations share a common concern with phenomena at a level of organization above that of the individual organism—the population, community or ecosystem.

SATELLITE COURSES

- 141 *Field Biology* (1) spring
Prerequisite: Introductory course in biology and consent of instructor. Lecture, laboratory, field.
- 143 A-B *Marine Ecology* (1-1) fall, winter 1968-69
Alternate years with 144A-B *Ichthyology*
Prerequisites: *Biological Sciences* 1A-B-C, or its equivalent, chemistry, and college mathematics; registration for upper division work or graduate studies and consent of instructor. Course 143B cannot be taken without completion of course 143A. Both courses must be taken to receive credit. Lecture, laboratory, field.
- 144 A-B *Ichthyology* (1-1) fall, winter 1967-68
Alternate years with 143A-B *Marine Ecology*
Prerequisites: Registration for upper division work or graduate studies and consent of instructor. Lecture, laboratory, field.
- 145 A-B *Evolutionary Processes* (1-1) fall, winter
Prerequisites: *Biological Sciences* 1A-B-C or equivalent preparation in general biology. 145A is prerequisite to 145B, but credit is given for 145A without 145B. Lecture, laboratory and field.
- 146 *Human Genetics* (1) spring
Prerequisites: Elementary knowledge of biology; registration for upper division or graduate studies and consent of instructor. Lecture.

- 147 *Vegetation Analysis* (1) spring
To be offered every other year beginning in 1967. Prerequisites: Courses in introductory ecology and statistics, and consent of instructor. Lecture, laboratory, field.
- 148 *Theory of Natural Communities* (1) spring
To be offered every other year beginning in 1968. Lecture, laboratory, field.
- 199 *Special Study for Advanced Undergraduate Students in Population and Environmental Biology* (1-1-1) fall, winter, spring
Selected research topics; including preparation of a term paper. Other types of projects (such as the preparation of a comprehensive review paper) may be arranged. May be taken under the supervision of any instructor; instructor's prior permission required. Normally taken during senior year; may be taken during junior year.

GRADUATE COURSES

- 200 *A-B-C Research in Population and Environmental Biology* ($\frac{1}{2}$ - $\frac{1}{2}$ per quarter) fall, winter, spring
Qualified students will be admitted with approval of the staff.
- 201 *A-B-C Seminar in Population and Environmental Biology* ($\frac{1}{2}$ - $\frac{1}{2}$) fall, winter, spring
Advance study in areas of population and environmental biology. Topics will vary from year to year.
- 202 *A-B Chromosome Cytology and Cytogenetics* (1-1) fall, winter
Prerequisite: Registration for upper division or graduate studies and consent of instructor.
- 210 *Fundamentals of Tropical Biology* (2)
This eight-week course is given in the spring and again in the summer in Costa Rica. Prerequisites: Registration for graduate work in the Division of Biological Sciences. Includes lectures and field work at San Jose and field stations in various regions of Costa Rica.
- 211 *Advanced Tropical Biology* (2)
This eight-week course is given in the spring and again in the summer in Costa Rica. Prerequisites: Registration for graduate work in the Division of Biological Sciences and some previous experience of tropical biology. The course includes lectures and especially field work at the various Organization for Tropical Studies' centers at Costa Rica; is directed towards zoological aspects.
- 212 *Advanced Tropical Biology* (2)
This eight-week course is given in the spring and again in the summer in Costa Rica. Prerequisites: Registration for graduate work in the Division of Biological Sciences and some previous experience of tropical biology. Includes lectures and especially

field work at the various Organization for Tropical Studies' centers at Costa Rica; is directed towards botanical aspects.

290A-B-C *Colloquium in Population and Environmental Biology* (1/2-1/2-1/2) fall, winter, spring

Invited speakers will introduce research and review topics within the area of population and environmental biology.

■ *Department of Psychobiology*

*JAMES L. McGAUGH, *Professor of Psychobiology and Chairman of the Department*

**RICHARD E. WHALEN, *Associate Professor of Psychobiology and Acting Chairman of the Department*

CARL COTMAN, *Assistant Professor of Psychobiology*

VINCENT J. POLIDORA, *Visiting Associate Professor of Psychobiology*

ROGER W. RUSSELL, *Professor of Psychobiology*

RICHARD F. THOMPSON, *Professor of Psychobiology*

MARCEL VERZEANO, *Professor of Psychobiology*

NORMAN M. WEINBERGER, *Assistant Professor of Psychobiology*

*Acting Dean, Division of Biological Sciences 1967-68 academic year.

**Acting Chairman of the Department 1967-68 academic year.

AREAS CONCERNED: The Department of Psychobiology is concerned with those aspects of psychology strongly oriented toward problems of biological nature. Emphasis is given to problems concerning the biochemical, genetic, and neurophysiological systems underlying attention, perception, learning, memory, motivation, emotion, and instinctive behavior. It is recognized that a general understanding of these processes requires a comparative approach. In other words, psychobiology is concerned with the biological bases of behavior.

SATELLITE COURSES

150 *Introduction to Psychobiology* (1) winter

Prerequisites: Introductory background in psychobiology or biological sciences. Intended primarily for non-biological science students. Lecture and laboratory. An analysis of the nature and biological bases of animal behavior. Contemporary problems in psychobiology.

151 *Undergraduate Seminar in Psychobiology* (1) spring

Prerequisites: One year psychology or biological sciences (biology, zoology, etc.); upper division registration and consent of instructor. Consideration of selected current research problems in psychobiology.

- 153 *Animal Behavior* (1) spring
Prerequisite: *Biological Sciences* 104 or 150.
- 155 *Arousal and Attention* (1) winter
Prerequisites: *Psychobiology* 104 or 150, or any course in psychology or biology which provides an introduction to the nervous system. Lecture and laboratory. Consideration of the behavioral characteristics and neural bases of sleep, wakefulness and attention.
- 199 *Special Study for Advanced Undergraduates in Psychobiology* (1-1-1) fall, winter, spring

GRADUATE COURSES

- 200A-B-C *Research in Psychobiology* ($\frac{1}{2}$ to $1\frac{1}{2}$ per quarter) fall, winter, spring
- 201A-B-C *Seminar in Psychobiology* (1-1-1) fall, winter, spring
Advanced study for the current topics in various areas of psychobiology. Topics will vary from term to term and from year to year. May be repeated for credit.
- 202A-B-C *Methods in Psychobiology* (1-1-1) fall, winter, spring
A lecture, discussion, and laboratory demonstration and participation course emphasizing classical as well as recent developments in psychobiological research methods and techniques.
- 203 *Comparative Behavior* (1) fall
- 204 *Learning and Memory* (1) winter
- 205 *Attentive and Motivational Processes* (1) spring
- 206A-B-C *Neurobiology* (1-1-1) fall, winter, spring
Prerequisite: Approval of staff. *Neurobiology* 206A is a prerequisite for *Neurobiology* 206B. Enrollment in 206A-B does not necessitate enrollment in 207A-B.
- 207A-B-C *Advanced Laboratory in Neurobiology* (1-1-1) fall, winter, spring
Prerequisite: Concurrent enrollment in *Psychobiology* 206A-B.
- 290A-B-C *Colloquium in Psychobiology* ($\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$) fall, winter, spring
Presentation of contemporary research problems in psychobiology and related areas. Lecturers or invited speakers will introduce research and review topics.

SAMPLE PROGRAM FOR BIOLOGICAL SCIENCES MAJORS

(This is merely a suggested program: advisor may make other recommendations.)

All courses in italics, or their equivalents, are required for the baccalaureate in biological sciences. Electives should include a

coherent group of courses (at least three of which should be in the biological sciences) selected in consultation with student's advisor.

Introductory General Biology 1A-B-C may be taken by majors in their freshman year if so doing provides them with a more compatible program during their sophomore year. The major in the biological sciences may start directly with the 101 series if he feels that he does not need *Introductory General Biology* 1A-B-C and if he has the necessary prerequisites.

	FALL	WINTER	SPRING
FRESHMAN	<i>Chemistry</i> 1A <i>Calculus</i> 2A or Math 5A*	<i>Chemistry</i> 1B <i>Calculus</i> 2B or Math 5B*	<i>Chemistry</i> 1C <i>Calculus</i> 2C or Math 5C*
	English Social Sciences 1A	English Social Sciences 1B	English Social Sciences 1C
SOPHOMORE	Biological Sciences 1A <i>Organic</i> <i>Chemistry</i> 51A <i>Physics</i> 3A Elective	Biological Sciences 1B <i>Organic</i> <i>Chemistry</i> 51B <i>Physics</i> 3B Elements of Logic 10	Biological Sciences 1C <i>Organic</i> <i>Chemistry</i> 51C <i>Physics</i> 3C Ethics 15
JUNIOR	<i>Biological</i> <i>Sciences</i> 101 ** <i>Physical</i> <i>Chemistry</i> 131A History of Science 106A Elective	<i>Biological</i> <i>Sciences</i> 102 ** <i>Physical</i> <i>Chemistry</i> 131B History of Science 106B Elective	<i>Biological</i> <i>Sciences</i> 103 ** <i>Physical</i> <i>Chemistry</i> 131C Elective Elective
SENIOR	<i>Biological</i> <i>Sciences</i> 104 Language or Elective Fine Arts Elective	<i>Biological</i> <i>Sciences</i> 105 Language or Elective Fine Arts Elective	<i>Biological</i> <i>Sciences</i> 106 Language or Electives Fine Arts Elective

**Math* 5A-B-C should be considered as an alternative to *Calculus* 2A-B-C only by those students who do not aspire to graduate work in the biological sciences.

***Physical Chemistry* 131A-B-C is definitely recommended for students intending to specialize in molecular and cell biology and is required by many medical and dental schools.



The Division of Fine Arts wishes to provide an education that develops critical and historical understanding as well as creative and performing artistry in each student. The objective of the program is to produce literate artists who are responsive to intellectual stimuli, capable of integrating knowledge into creative acts, and committed to rigorous standards of professional involvement. Offerings in all areas of the fine arts include a comprehensive study of literature, history, theory, and criticism — resources that are not only substantive materials in themselves, but essential research sources for the creative act. Theoretical, literary, and historical courses complement the practical work in studio workshops and performance. The Division does not view the arts merely as ornaments of civilization, but as organic components of life concerned with human vitality and vision.

All courses in all areas of the arts at the freshman-sophomore level, and certain junior-senior courses, will not only provide the broad and fundamental experiences essential for majors but also invite the intellectual and creative participation of the non-specialist as a part of a liberal education. Although public performance and exhibits will seek to attain a professional level, all departments will provide workshop and studio experiences for the nonmajor.

The Division of Fine Arts is comprised of the departments of Art, Drama, Music, and Dance, with the Dean of the Division and the departmental chairmen

administering the academic activities of the four departments.

The Departments of Art, Drama, Music, and Dance offer four-year curricula leading to the Bachelor of Arts degree. All of the Departments are planning to initiate two-year programs leading to the Master of Fine Arts degree. The Division of Fine Arts and the Department of English offer an interdisciplinary program in playwriting leading to the M.F.A. Introductory courses in architecture and film are also available in the Division of Fine Arts.

The curricula in the fine arts are organized to achieve a balance between 1) professional competence, and 2) a liberal education which can contribute substantially to the perception of the

THE DIVISION OF FINE ARTS

CLAYTON GARRISON, *Dean*

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artist and the significance of what he has to say in his particular medium.

Departmental majors are offered in Art, Drama, Music, and Dance. In addition to the departmental majors, an interdisciplinary major involving studies in two of the four fine arts offerings is available. Departmental requirements include 1) extensive studio and workshop experiences, 2) essential theoretical and historical backgrounds, 3) exercises in criticism, and 4) tutorials aimed at independent and creative performance. The requirements for all 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.

TEACHING CREDENTIALS: Upon completion of a five-year program which includes the divisional and departmental requirements for the Bachelor's degree plus additional requirements established by the California State Board of Education, fine arts majors may qualify for teaching credentials at the elementary, secondary, and junior college levels.

THE UNIVERSITY'S CULTURAL PROGRAMS: In addition to producing student concerts, musicals, and dramatic performances, the Division 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 annual All-University Student Art Festival provides an opportunity for students and faculties in the arts on the various University campuses to meet one another, to exchange ideas and to share the results of their creative efforts, to participate in workshops, and to talk with eminent professional people in the creative arts.

■ *Art*

The program in art provides basic studio experiences in the fundamental knowledge and techniques of painting, sculpture, design, and graphic arts, and a comprehensive 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 constantly aims to develop a sense of visual awareness by as wide a range of the study of art as possible. Each student will be able to discover an area and style particularly suited to his own talents and interests. The program is designed for students preparing to continue professionally as artists, as critics, as historians, as curators in museums, and as teachers, as

well as for students who, while not planning to make the study of art their vocation, have a serious interest in the theory, practice, and history of the visual arts.

The distinguishing characteristics of the program leading to the Bachelor of Arts degree lie in the interrelated approach to studio practice, history, and criticism. The art major experiences the creative aspects of art by learning to think with the materials and techniques of his medium. He experiences, furthermore, the historical continuum of art as a research source and cultural achievement. And finally he engages in critical exercise which is essential to achieving the vital balance between the perceptual and conceptual in the creative process. The aim of the program in the visual arts is to enable the student to apply himself to any visual situation (studio, historical, critical) rather than to apply pre-learned techniques or a rigid intellectual pattern.

Nonmajors are welcome to participate in all aspects of the program, providing prerequisites are met. Courses without prerequisites particularly suited for the nonmajor include the basic studio course, *Visual Arts*; the elementary studio courses in life drawing, painting, sculpture, and graphic arts; the introductory course in principles of art and art criticism, *The Nature of Art: Structure and Style*; and all courses in the history of art.

■ *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 serve not only as a physiological center for the logical training of the body, but also as a basic language of move-

ment for the choreographer. Workshop experiences build progressively on the basic techniques of ballet and extend through the contemporary idioms of jazz, modern, and free-style. The aim is to develop kinetic resources, precision, flexibility, and freedom in an eloquently coordinated and intelligently responsive body.

Nonmajors are welcome to participate in all aspects of the program, providing prerequisites are met. Courses without prerequisites particularly suited for the nonmajor include the basic workshops in ballet, free-style and jazz, and the course in the history of dance.

■ *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 inter-related 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.

Nonmajors are welcome to participate in all aspects of the program providing prerequisites are met. Courses without prerequisites particularly suited for the nonmajor include the elementary studio course, *Acting*; the introductory course in criticism, *The Nature of Drama: Structure and Style*; and all courses in dramatic literature and history of theatre. Participation in all aspects of the production of plays, musicals, operettas, and operas is open to all qualified students.

■ *Music*

The program for the A.B. 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.

Entering majors are expected to have competence in the practice of music—in reading and performing. Basic to the program for the graduating major is an effective command of the piano; the performance at sight of moderately difficult works. Students may demonstrate this skill by examination.

Performance requirements include a senior recital, instrumental or vocal, and participation in the chorus, orchestra, or in chamber music during each of his four years.

Beyond the specific goals outlined above and the requirements listed below, the student in music, through cooperative programs undertaken in conjunction with the other parts, 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.

Nonmajors are welcome to participate in all aspects of the program, providing prerequisites are met. Qualified students are invited to participate in the chorus, orchestra, and chamber groups.

Courses of Study

■ *Art*

VIJA CELMINS, *Lecturer in Art*

JOHN COPLANS, *Director of the Gallery*

CRAIG KAUFFMAN, *Lecturer in Art*

TONY DE LAP, *Assistant Professor of Art*

JOHN MASON, *Associate Professor of Art*

PHILIP MCALEER, *Assistant Professor of Art*

DAVID METZGAR, *Assistant Professor of Art*

ALAN SOLOMON, *Visiting Professor of Art*

FRESHMAN-SOPHOMORE COURSES

20 *The Nature of Art: Structure and Style* (1)

30A-30B-30C *Visual Arts Fundamentals* (1-1-1)

30A Fundamentals of drawing and pictorial structure.

- 30B Theory of color and two-dimensional design.
 30C Three-dimensional design.
 40A-40B-40C *History and Theory of Art* (1-1-1)
 45 *Problems in Design* (1) may be repeated for credit.
 50A-50B-50C *Drawing* (1-1-1)
 60A-60B-60C *Painting* (1-1-1)
 70A-70B-70C *Sculpture* (1-1-1)
 80A-80B-80C *Graphic Arts* (1-1-1)
 Introduction to lithography.
 86A-86B-86C *Ceramics* (1-1-1)

JUNIOR-SENIOR COURSES

Courses in the following 100 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*
 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)

Courses in the following 100N sequence are primarily for non-majors in Art. There are no prerequisites.

- 100N *Art of the Ancient World* (1)
 103N *Art of the Medieval World* (1)
 104N *Leonardo and the Italian Renaissance* (1)
 105N *Durer and the Northern Renaissance* (1)
 106N *Rembrandt and the Baroque* (1)
 108N *Impressionism and 19th-Century Art* (1)
 109N *Picasso and 20th-Century Art* (1)
 110N *Frank Lloyd Wright and 20th-Century Architecture* (1)
 112N *Oriental Art* (1)
 127 *History of Design* (1)
 128 *Art and Technology* (1)

- 129 *The New American Painting* (1)
 140 *Criticism of Art* (1)
 All advanced problem, special studies, and tutorial courses may be repeated for credit.
 145 *Advanced Problems in Design* (1)
 150 *Advanced Problems in Life Drawing* (1)
 160 *Advanced Problems in Painting* (1)
 170 *Advanced Problems in Sculpture* (1)
 180 *Advanced Problems in Graphic Arts* (1)
 185 *Design and Typography* (1)
 186 *Advanced Problems in Ceramics* (1)
 190 *Studio Tutorial in Design* (1)
 191 *Studio Tutorial in Life Drawing* (1)
 192 *Studio Tutorial in Painting* (1)
 193 *Studio Tutorial in Sculpture* (1)
 194 *Studio Tutorial in Graphic Arts* (1)
 195 *Art Museum Problems* (1)
 196 *Tutorial in Art History* (1)
 197 *Tutorial in Criticism of Art* (1)
 198 *Studio Tutorial in Ceramics* (1)
 199 *Special Studies in the History and Criticism of Art* (1)

■ *Dance*

EUGENE LORING, *Senior Lecturer in Dance and Chairman of Dance*
 EL GABRIEL, *Assistant Professor of Dance*
 JAMES PENROD, *Assistant Professor of Dance*

FRESHMAN-SOPHOMORE COURSES

- 20A-20B-20C *Theories of Dance* (1-1-1)
 Open only to students enrolled in workshop courses.
 30A-30B-30C *Studio Workshop in Ballet I* (½-½-½)
 35A-35B-35C *Studio Workshop in Ballet II* (½-½-½)
 Prerequisite: *Ballet I*
 40A-40B-40C *Studio Workshop in Free-Style I* (½-½-½)
 45A-45B-45C *Studio Workshop in Free-Style II* (½-½-½)
 Prerequisite: *Free-Style I*
 50A-50B-50C *Studio Workshop in Jazz I* (½-½-½)
 Prerequisite: one quarter of *Free-Style I*
 55A-55B-55C *Studio Workshop in Jazz II* (½-½-½)
 Prerequisite: *Jazz I*
 60 *Dance Performance* (½)
 May be repeated for credit.
 65 *Dance Notation* (1)

JUNIOR-SENIOR COURSES

- 110A-110B-110C *History of Dance* (1-1-1)
 120A-120B-120C *Music for Dancers* (1-1-1)

- 125 *Criticism of Dance* (1)
- 130A-130B-130C *Advanced Studio Workshop in Ballet III* (½-½-½)
Prerequisite: *Ballet II*
- 135A-135B-135C *Advanced Studio Workshop in Ballet IV* (½-½-½)
Prerequisite: *Ballet III*
- 140 *Advanced Studio Workshop in Free-Style* (½)
May be repeated for credit. Prerequisite: *Free-Style II*.
- 150 *Advanced Studio Workshop in Jazz* (½)
May be repeated for credit. Prerequisite: *Jazz II*.
- 155A-155B-155C *Choreography I* (1-1-1)
- 160 *Advanced Dance Performance* (½)
May be repeated for credit.
- 170 *Ethnic Dance of Eastern Cultures* (1)
- 175 *Ethnic Dance of Western Cultures* (1)
- 180A-180B-180C *Choreography II* (1-1-1)
- 185A-185B-185C *Choreography III* (1-1-1)
- 190 *Studio Tutorial in Ballet* (½)
May be repeated for credit. Prerequisite: *Ballet III*.
- 191 *Studio Tutorial in Free-Style* (½)
May be repeated for credit. Prerequisite: *Advanced Studio Workshop in Free-Style*.
- 192 *Studio Tutorial in Jazz* (½)
May be repeated for credit. Prerequisite: *Advanced Studio Workshop in Jazz*.
- 193 *Studio Tutorial in Choreography* (1)
May be repeated for credit. Prerequisite: *Choreography III*.

■ *Drama*

ROBERT S. COHEN, *Assistant Professor of Drama*

CLAYTON GARRISON, *Professor of Drama and Dean of Fine Arts*

JOHN ELLIOTT, *Senior Scene Technician and Technical Director*

HERBERT MACHIZ, *Lecturer in Drama*

MING-CHO LEE, *Lecturer in Drama*

JAMES PALMER, *Senior Wardrobe Technician*

DANIEL STEIN, *Assistant Professor of Drama*

RICHARD TRIPLETT, *Assistant Professor of Drama*

MARTIN WINE, *Associate Professor of Drama*

FRESHMAN-SOPHOMORE COURSES

- 20 *The Nature of Drama: Structure and Style* (1)
Same as *English 20*.
- 22 *Shakespeare* (1) Same as *English 22*.
- 25 *Principles of Speech* (1)
- 30A-30B-30C *Acting* (1-1-1)
30A Analysis of script and performance of scenes.

- 30B Characterization.
- 30C Styles of Acting.
- 32 *The Art of Writing: Drama* (1) Same as *English Wr 32*
- 40A-40B-40C *Development of Drama* (1) Same as *English 40*
 - 40A Greek Drama through Shakespeare.
 - 40B Restoration Drama through Ibsen.
 - 40C Contemporary Drama.
- 60 *University Theatre* (1)
May be repeated for credit.

JUNIOR-SENIOR COURSES

- 100A-100B-100C *Design for Theatre* (1-1-1)
 - 100A Costume Design
 - 100B Scene Design
 - 100C Lighting Design
- 105A-105B-105C *Technical Production* (1-1-1)
 - 105A Costume
 - 105B Scenery
 - 105C Lighting
- 112 *Playwriting* (1) Same as *English Wr 112*
- 120A-120B *History of Design in Theatre* (1-1)
- 130 *Advanced Acting* (1)
May be repeated for credit.
- 132 *Voice and Speech in the Theatre* (1)
- 140 *Contemporary American Drama* (1)
- 141 *Contemporary British Drama* (1)
- 142 *Contemporary Continental Drama: Theatre of the Absurd* (1)
- 143 *Greek Drama* (1)
- 144 *Medieval and Tudor Drama* (1) Same as *English 144*.
- 145 *Elizabethan and Jacobean Drama* (1) Same as *English 145*.
- 146 *Shakespeare* (1) Same as *English 146*.
- 147 *Restoration and Eighteenth-Century Drama* (1) Same as *English 147*.
- 148 *Modern British Drama: 1870-1940* (1) Same as *English 148*.
- 149 *Modern American Drama: 1870-1940* (1) Same as *English 149*.
- 150 *Realism and Revolt: Ibsen to O'Neill* (1)
- 151 *Advanced Scene 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 *Advanced University Theatre* (1) May be repeated for credit.
- 165 *Music Theatre Workshop* (½) May be repeated for credit.
- 166 *History of Operetta and Musical Theatre* (1)
- 170 *Directing* (1) May be repeated for credit.
- 175 *Staging Shakespeare* (1)

- 180 *Dramatic Criticism* (1)
 182 *History of Dramatic Criticism* (1)
 185 *Advanced Directing* (1) May be repeated for credit.

The following tutorials may be repeated for credit:

- 190 *Studio Tutorial in Acting* (1)
 191 *Studio Tutorial in Directing* (1)
 192 *Studio Tutorial in Scene Design* (1)
 193 *Studio Tutorial in Costume Design for Theatre* (1)
 194 *Tutorial in Criticism* (1)
 195 *Studio Tutorial in Production* (1)
 196 *Repertory Theatre* (1) May be repeated for credit.
 197 *Tutorial in Dramatic Literature* (1) May be repeated for credit.

■ *Music*

COLIN SLIM, *Associate Professor of Music and Chairman of Music*
 MAURICE ALLARD, *Assistant Professor of Music and Conductor of
 the University Chorus*

CAROL BOELTER, *Lecturer in Music*

ARNOLD JUDA, *Lecturer in Music*

PETER ODEGARD, *Assistant Professor of Music and Conductor of
 the University Orchestra*

THOMAS WHITNEY, *Acting Instructor of Music*

A professional tutorial staff in vocal and instrumental music supplements the staff.

FRESHMAN-SOPHOMORE COURSES

5A-5B-5C *Musicianship I* (1/2-1/2-1/2)

10 *Basic Piano* (1/2)

For music and dance majors only. May be repeated for credit.

15A-15B-15C *Musicianship II* (1/2-1/2-1/2)

20 *The Nature of Music: Structure and Style* (1)

30A-30B-30C *Theory I* (1-1-1)

40A-40B-40C *History and Literature of Music* (1-1-1)

50A-50B-50C *Composition* (1-1-1)

All courses in the 60 sequence may be repeated for credit.

60 *University Orchestra* (1/2)

61 *Chamber Ensemble* (1/2)

62 *University Chorus* (1/2)

63 *Vocal Music for Small Chorus* (1/2)

By audition only: *Music 62* must be taken concurrently.

64 *Opera Workshop* (1/2)

65 *Literature for Keyboard* (1/2)

66 *Literature for String Instruments* (1/2)

67 *Literature for Wind Instruments* (1/2)

68 *Vocal Literature* (1/2)

JUNIOR-SENIOR COURSES

- 130A-130B-130C *Theory II* (1-1-1)
 135A-135B-135C *Counterpoint* (1-1-1)
 138A-138B-138C *Fugue* (1-1-1)

Courses in the following 140 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)

Courses in the following 140N sequence are for nonmajors in music. Prerequisite for each of the courses is *Music 20*.

- 140N *Music of the Middle Ages* (1)
 141N *Music of the Renaissance* (1)
 142N *Music of the Baroque Period* (1)
 143N *Music of the Classical Period* (1)
 144N *Music of the Romantic Period* (1)
 145N *Music of the 20th Century* (1)
 150 *Advanced Composition* (1)
 152 *History of Opera* (1)
 155A-155B-155C *Form and Analysis* (1-1-1)

All courses in the 160 sequence may be repeated for credit.

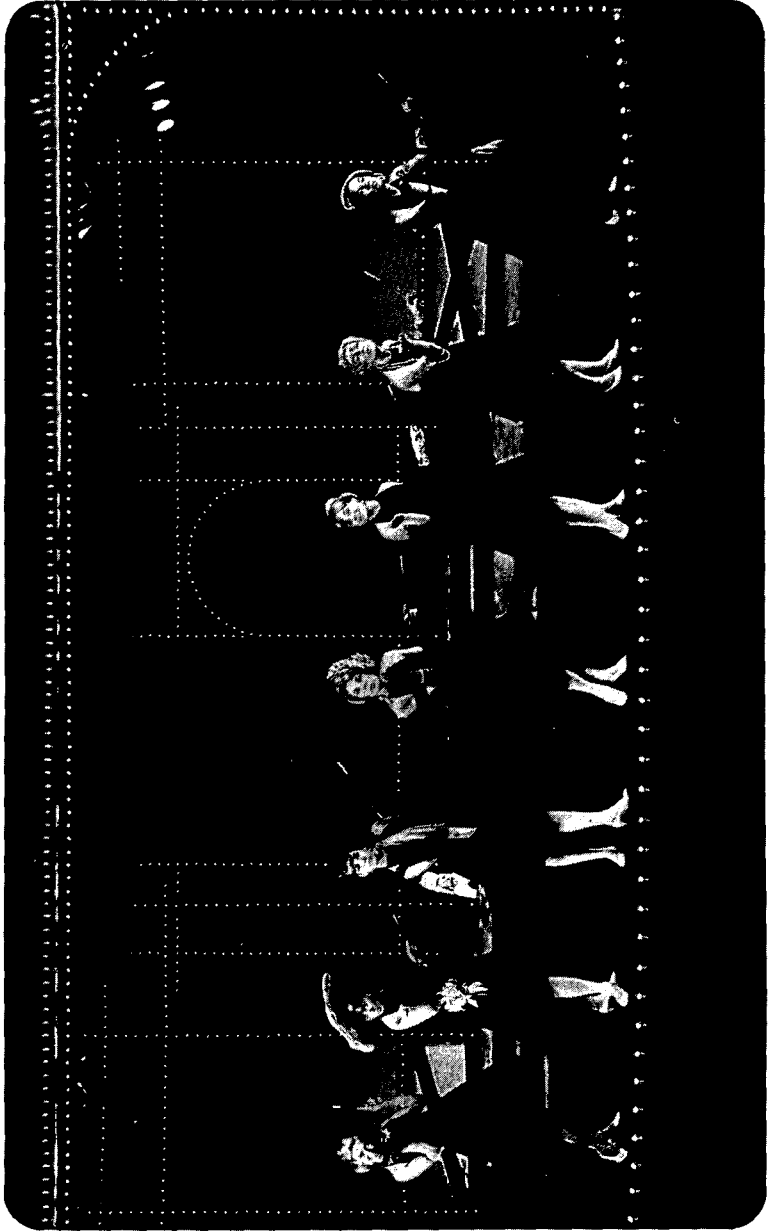
- 160 *Advanced University Orchestra* (1/2)
 161 *Advanced Chamber Ensemble* (1/2)
 162 *Advanced University Chorus* (1/2)
 163 *Advanced Vocal Music for Small Chorus* (1/2)
 By audition only. *Music 162* must be taken concurrently.
 164 *Advanced Opera Workshop* (1/2)
 165 *Advanced Literature for Keyboard* (1/2)
 166 *Advanced Literature for String Instruments* (1/2)
 167 *Advanced Literature for Wind Instruments* (1/2)
 168 *Advanced Vocal Literature* (1/2)
 169 *Conducting* (1)
 170 *Orchestration* (1)
 180 *Music Criticism* (1)
 190 *Studio Tutorials in Music* (piano, strings, winds, voice, conducting) (1/2)

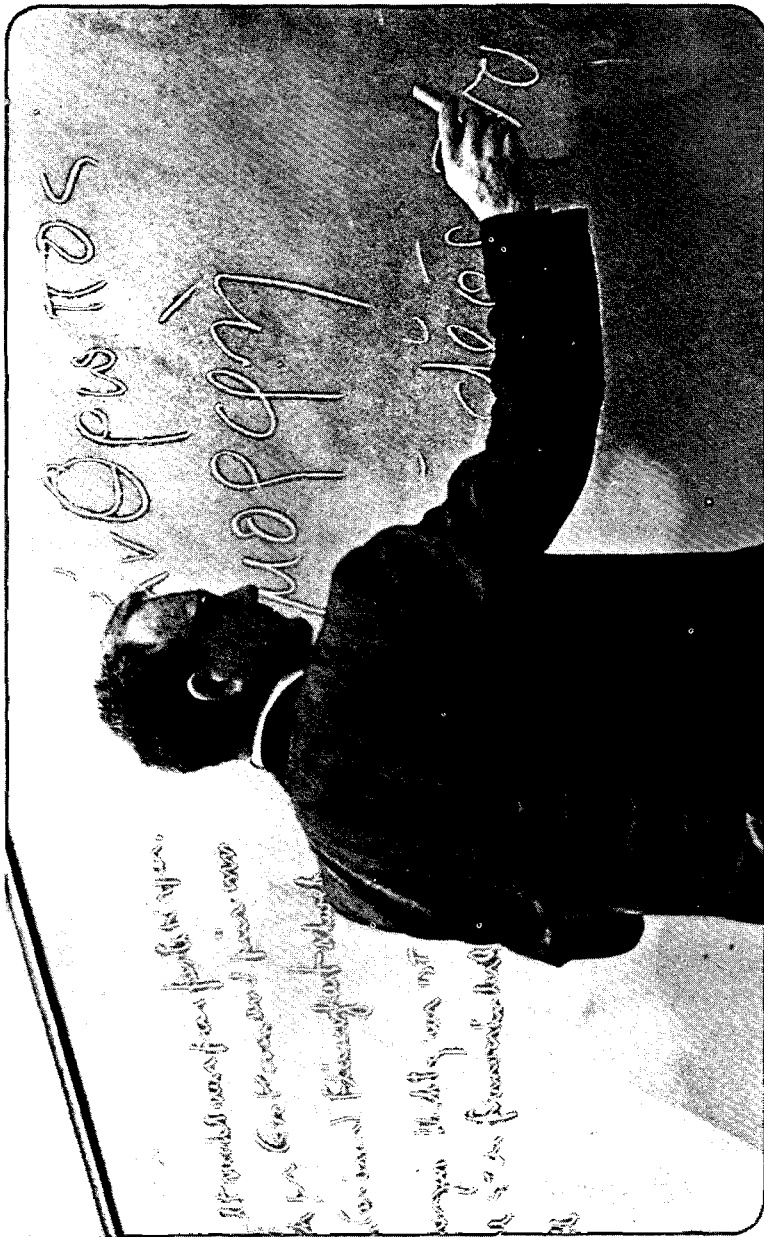
■ *Fine Arts*

(Interdisciplinary Courses)

- Art 20 *The Nature of Art: Structure and Style* (1)
- Dance 20 *Theories of Dance* (1)
- Drama 20 *The Nature of Drama: Structure and Style* (1)
- Music 20 *The Nature of Music: Structure and Style* (1)
- Fine Arts 30 *The Nature of Film* (1)
- Fine Arts 40 *The Nature of Architecture: Problems, Structure and Style* (1)

- Fine Arts 100 *The Film as Art* (1)
- Fine Arts 120 *Studies in the Theory and Practice of the Arts* (1)
May be repeated for credit.
- Fine Arts 199 *Seminar in Interdisciplinary Studies in Fine Arts* (1)
May be repeated for credit.





The humanities are concerned with fundamental problems of human thought and experience. They contribute both to understanding and to continued appraisal of the human condition. They introduce the student to those many broad and difficult problems of value not susceptible to statistical or quantitative judgment; therefore, humanistic study is of importance to students in all areas of specialization. The humanities provide a useful foundation for those who plan to work toward advanced degrees in medicine, business, law, journalism, and other professional disciplines. It is not always understood that many such professional schools encourage undergraduates to major in the humanities and, at the very least, to study extensively in the humanistic disciplines.

The Division is composed of the Departments of English and Comparative Literature, Foreign Languages and Literatures, History, and Philosophy, and offers baccalaureate work in comparative literature, English, history, philosophy, and in foreign languages and their literatures, including classics. The Division encourages joint majors, majors with supporting work in related disciplines, and, wherever practicable, interdisciplinary programs and comparative studies. For students in other divisions on all levels, it offers a wide range of electives which are available without prerequisite. It is concerned as well with offering opportunity to improve the basic humanistic skills of writing, reading, and, of course, thinking.

THE DIVISION OF HUMANITIES

2

Each Department provides the means by which outstanding undergraduate majors are offered unusual opportunities for advanced study and research. Each Department plans work leading to the Master of Arts and Doctor of Philosophy degrees. The Department of English and Comparative Literature offers, as well, the Master of Fine Arts in Writing.

PRE-LAW STUDENTS. Students interested in entering law school upon completion of their baccalaureate can major in any of the humanities. Specific requirements imposed by specific law schools can be met by choosing the necessary electives.

SAMUEL C. MCCULLOCH, *Dean*

TEACHER TRAINING. Students interested in preparing for secondary and junior college teaching in the humanities follow the regular program for majors in the humanities. With their advisors they plan a program with an appropriate teaching major and minor. In the senior year or after graduation they engage in teaching preinternships in cooperating schools.

■ DEPARTMENT OF ENGLISH AND COMPARATIVE LITERATURE

The student intending to major in English or Comparative Literature should obtain a copy of *English and Comparative Literature at Irvine* from the Departmental office. The student intending to major in Comparative Literature should also obtain the Comparative Literature booklet from the Director of Comparative Literature.

Undergraduate Programs

The Department of English and Comparative Literature addresses itself to the fundamental humanistic problem of value. The problem of value follows upon speculation about the nature of things. Thus the Department's fundamental literary concern is critical and theoretical. To accomplish its aims it must be neither tied to a single theoretical position nor victimized by rambling diversity. The best literary minds are 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. Though not alone in the task, the Department recognizes a continuing obligation to help all students to write the English language with clarity and grace.

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 formal work in the writing of poetry, prose fiction, and/or drama, parallel readings, and a substantial experience in criticism. The aim of the program is to encourage the creative literary powers of the student and to introduce him to the discipline of imaginative writing. The Department also offers work in non-fiction and advanced work in 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 program is based on the assumption that important literary problems are not totally national but transcend national and linguistic boundaries, and that texts of the literature of other languages are often as much a part of the educated American's literary background as those of his own. The aim of the program is therefore to present the student's literary heritage to him in its proper proportions, transcending the limitations of the conventional departmentalization of American universities. The listed courses in literary genres and literary history and relations are designed so that the concepts involved are transferable to other material. Thus a specialized course in a single genre will involve the general theory of all literary genres, and a course in a specific literary movement will aid in understanding the general process through which literary movements form and develop. For this reason it is not expected that even an advanced student will need to complete all of these courses, and much of his specific knowledge of world literature will be gained through independent reading or through course work in English, Foreign Languages, or other fields.

The Department's three areas of emphasis are not necessarily discrete entities. Rather, the student is invited to take work in all three, with an emphasis on one of the first two or a major in the third. A student of literature should recognize the importance of understanding literary problems of a theoretical nature, of developing a broad literary experience which transcends national boundaries, and of experiencing the problems of literary creation at first hand. The student should form a coherent program of courses with the help of his advisor, including experience in special small classes in criticism, the senior seminar or the workshop in writing, and the comprehensive examination. The Department offers the student an opportunity to be exposed to particular points of view and to explore important problems, rather than simply to pass through a series of prescribed courses. By not stipulating a variety of prerequisites the Department invites students from all divisions and schools of the University to take advantage of its offerings, for it assumes that the experience of literature, an understanding of the verbal culture and how it was developed, and the achievement of a high level of literacy are fundamental to a liberal education.

Many of the courses offered, particularly those devoted to the historical periods of literature, may vary in specific content from year to year depending upon the plans of individual teachers. It is a principle of departmental offerings in literary periods that no course can possibly treat all of the major authors or important works of a given age, and that each teacher is charged with organizing classes and readings which, in recognition of this fact, provide basic understanding and point in proper directions.

Graduate Programs

All those interested in graduate study in the Department should obtain the brochure on graduate programs from the Departmental office.

The Department assumes that there must be a vital intellectual relationship between professor and candidate; specific requirements for graduate degrees will be reached by consultation among members of the faculty and the candidate himself. The candidate for the Master of Arts or the Master of Fine Arts in Writing plans a program with his advisor; the candidate for the Ph.D. with his advisor and a three-man committee. Candidates for literary degrees are encouraged to study philosophy, history, foreign languages and literatures, and the fine arts.

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 Ph.D. in English with specific attention to criticism, the M.A. and Ph.D. in Comparative Literature, and the M.F.A. in writing.

Candidates for all graduate degrees must meet requirements set down by the University of California. Applicants for the M.A. and Ph.D. in English must submit scores for the Graduate Record Examination (GRE) and the Advanced Test, Literature (ATL).

The Department is eager to encourage serious study and to establish a community of scholars. To these ends part-time graduate work is discouraged; 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 an enrollment in three courses each quarter. A full course load for teaching assistants is five quarter courses during the academic year.

The Department is entering into cooperation with the Department of Literature at the University of California, San Diego, which will enable graduate students at one campus to enroll in seminars at the other. In addition, there will be occasions on which professors will travel between campuses to offer instruction.

Graduate Degrees in English

THE MASTER OF ARTS IN ENGLISH

Each candidate for the M.A. will be assigned to a graduate advisor, who will supervise his program of work. The M.A. may be attained by either of two methods: The student may elect to present a written essay (Plan I) in lieu of a written examination; he shall then be required to defend the essay in an oral examination. The normal plan of study, however, which is Plan

II, includes 1) the completion of course work, as advised, for three quarters or the equivalent; 2) the passing of a written examination upon a designated reading list; 3) demonstrated proficiency in reading a designated foreign language. All M.A. students shall be required to know fundamental facts about the history of the English language. The candidate must take at least one-half of his formal work in courses, seminars, or conferences limited to graduate students.

THE MASTER OF FINE ARTS IN ENGLISH

The Master of Fine Arts (M.F.A.) in English is an interdisciplinary degree awarded for creative writing in poetry, short story, drama, or the novel. The M.F.A. programs are based on the assumptions that artistic creation of high quality is disciplinary in nature, and that the University has a continuing obligation to the emerging, new artist.

The M.F.A. is normally conferred at the completion of a two-year program. The candidate presents an integrated course of study which brings together three kinds of experience: courses at the graduate level in literary studies, the focus being on contemporary literature and theory, hopefully in the genre of the candidate's thesis; courses in at least one other field of art, such as music, art, art history, drama, aesthetics, with the possibility of studio courses in these fields; completion of a book-length piece of creative writing, in one genre, of publishable quality.

Having reached a higher degree of artistic and intellectual maturity, the candidate completes his work by the presentation of his thesis and is examined on a reading list of literary works which will illuminate the history of and the theory of the genre of the candidate's thesis. If, for example, the candidate's thesis is a novel, the examination is on a reading list of novels, each list newly conceived in the light of the candidate's past experience and present needs. There is no examination on the thesis; the candidate has examined himself each time he has sat down to write.

THE DOCTOR OF PHILOSOPHY IN ENGLISH

The program for the Ph.D. in English normally includes about eighteen courses of work beyond the B.A.; proficiency in the reading of two acceptable foreign languages, or demonstration of more than ordinary ability to read and to speak a single acceptable foreign language; 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. Competence in the other language must be

established 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 methodological approach to literature. The first four of these examinations are written, the fifth oral. The student has the opportunity to present his own choices for 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.

As soon after completion of the general examination as is practicable, the student presents an essay to his advisory committee and is orally examined upon it and related subjects. Out of this essay should grow the dissertation. At this point the student is admitted to candidacy for the degree. Submission and acceptance of the dissertation complete the work for the Ph.D.

Graduate Degrees in 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).
- (d) A normal major in a foreign language, provided a sufficient general background in world literature is gained.

Makeup work will be required before graduate studies can begin if one of these avenues has not been taken.

THE MASTER OF ARTS IN COMPARATIVE LITERATURE

The student proposing himself for the degree of Master of Arts should complete course work for the equivalent of three

quarters. This course work should include CL 220 (*Problems in Translation*) with 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. The student is offered the option, as in the M.A. in English, of Plans I and II, but Plan II is recommended. 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.

THE DOCTOR OF PHILOSOPHY IN COMPARATIVE LITERATURE

Details of the planned doctoral program in Comparative Literature may be obtained from the Director. In general, an exceptional command of foreign languages is required, including at least one language and literature mastered in all of its chief literary periods from its historical origins to the present, and a second language and literature mastered in a single period. Further language study may be required depending upon the student's specialization. The requirements for the doctorate also include an area of competence in literary theory and practical criticism.

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. The program is particularly receptive to efforts to bring to bear the discipline and method of modern literary criticism, as distinguished from conventional research scholarship, on problems of comparative and general literature. Studies of the relation between literature and the other arts are also particularly encouraged.

■ DEPARTMENT OF FOREIGN LANGUAGES AND LITERATURES

Undergraduate Program

The main objectives of the program in foreign languages and literatures are:

1. To develop competence in the ability to understand, speak, read and write a foreign language.
2. To provide through the knowledge of foreign languages the valuable experience that is gained from deepened understanding and appreciation of the literature and culture of other peoples.

All courses in the modern foreign languages, unless specifically stated, are taught in the foreign language. In the basic courses in modern languages, the use of language laboratory facilities allows for emphasis on the development of the oral-aural language skills as well as basic reading and writing. First-year courses will meet in the classroom five times a week, and in the language laboratory twice a week. At the end of the first year, students will have attained mastery of the basic structure of the language and ability to converse on everyday topics.

At the intermediate and advanced levels, the language laboratory will continue to play an important role in improving the student's command of the foreign language. In the second year, emphasis will be put on gradually raising the level of the student's ability to read and write in the foreign language. A third-year course of two quarters will stress composition study as opposed to translation, with which it is often confused. Further, a course in phonetics will aim to perfect pronunciation as well as to introduce historical and dialectal variants. The introductory course in literature, also in the third year, will emphasize the analysis and appreciation of complete literary works rather than the study of many short selections of innumerable authors in an anthology.

In the classical languages, where speaking ability is of lesser importance, the emphasis is placed on rapid attainment of the facility to read, interpret, and appreciate classical Greek and Roman literary works. After two quarters of intensive work in Greek or Latin syntax and vocabulary, the student is exposed to classical literature through a series of "author-courses" covering the writing of classical authors in depth.

Major programs are offered in Classics, French, German, Greek, Latin and Spanish. Instruction in first-, second-, and third-year Russian is also given. Self-instructional courses in Chinese, Italian, Portuguese, and Swedish are also available.

Students are encouraged to participate in programs of study abroad during the summer and the junior year.

Graduate Program

THE MASTER OF ARTS IN FRENCH, GERMAN, SPANISH

The candidate is expected to have the equivalent of our undergraduate major. He must take a minimum of eleven courses, eight of which must be exclusively graduate (200 level). Six of the eleven courses must be in literature and two in linguistics. 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: for students of French, usually Spanish; for students of German and Spanish, usually French. The compre-

hensive 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 the major foreign language. No thesis is required. French and Spanish students should have a knowledge of the fundamentals of Latin (equivalent to the level attained at the end of course 1B) as a prerequisite for the courses in the history of each language.

■ DEPARTMENT OF HISTORY

Every student intending to major in history should obtain a copy of the *History Department Handbook* from the departmental office.

Undergraduate Program

History studies all recorded expressions of human activity. It explains the political experiences of a nation at home and abroad. It surveys the social and economic aspects of life, artistic expressions, intellectual achievements, scientific progress, and religious beliefs.

Courses in history are open to all students in the University. Many freshmen and sophomores will find *Western Traditions*, *American Thought and Culture*, or *Latin-American Civilization* suitable for their programs. Students with sophomore standing may enroll for *East Asian Civilizations*, *British Traditions and Institutions*, or *History of Scientific Thought and Technique*.

The baccalaureate program in history attempts to bring students abreast of contemporary national and world realities. Since candidates should be familiar with the intellectual and cultural history of western civilization as well as that of their own nation, the introductory courses are broadly conceived. The department favors interdisciplinary approaches within its own courses, and urges candidates to select related courses in the Humanities, Fine Arts, and Social Sciences.

Contemporary reality indicates that no one can restrict his understanding to that of a single nation or civilization. Candidates should become familiar with a nonwestern society early in their program. Study of a modern foreign language and culture should further diminish parochialism and help prepare students for junior-senior work.

After studying two different civilizations, majors will begin advanced study with a detailed examination of the work of great historians and historiography. Advanced courses will offer students the opportunity to use a foreign language. In the Senior Seminar, each major will write an essay demonstrating basic understanding of historical method and use of effective style.

Formal course work culminates in a study of America in world perspectives.

An Honors Program is planned for upper division students, beginning in 1968-69. Graduation with Honors in History will be recommended only for students enrolled in the Honors Program.

Graduate Programs

THE MASTER OF ARTS IN HISTORY

The candidate is encouraged to complete his study of nine courses within three quarters. Individual programs will be worked out with a graduate advisor. They will include Advanced Historiography, several colloquia and seminars, and *America in World Perspectives*. Candidates must maintain a B average and complete a written examination at the end of the course of study. Reading proficiency in a modern foreign language must be demonstrated at entrance; otherwise a reduced program is indicated. Qualified students will be accepted for part-time study over a maximum period of three years. For further details consult the *Graduate Program* handbook obtainable in the departmental office.

THE DOCTOR OF PHILOSOPHY IN HISTORY

Study on the doctoral level will be available in 1967-68 for a very limited number of highly qualified candidates. For further details consult the *Graduate Program* handbook obtainable in the departmental office.

■ 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.

Instruction in philosophy relies essentially upon discussion in which students are active participants and, wherever possible, is held in small classes in which sustained dialogues may be conducted.

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 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.

Graduate Program

Students entering graduate work for the first time are required to take a written comprehensive examination in order to determine their philosophical aptitude and the extent to which course work is necessary to remove deficiencies in their preparation for graduate study. The work of all graduate students will be supervised closely by their advisors. Further, there will be a close intellectual relation between graduate student and professor in order to provide the student with optimum conditions for philosophical development and to expedite his progress towards advanced degrees.

THE MASTER OF ARTS IN PHILOSOPHY

The candidate for the M.A. will be required to pass a proficiency reading examination in a designated foreign language not later than the second quarter of his residence. The program for the M.A. is designed as a one-year program for the normally well-qualified student. Plan I will be adopted; i.e., the student will be required to write and to pass an oral examination on a thesis.

THE DOCTOR OF PHILOSOPHY IN PHILOSOPHY

The Ph.D. degree is designed as a four-year program for the qualified student. Normally, but not necessarily, the student will take the M.A. before going on for the Ph.D. The program for the Ph.D. will require proficiency in the reading of two acceptable foreign languages. In addition, the student must pass written qualifying examinations in selected fields of philosophy. These, normally, will be taken before the end of the second year of graduate work. Upon successful completion of these examinations, the student will be recommended by the department for admission to candidacy for the Ph.D. degree. After formal admission to candidacy the student will be assigned to a supervisory committee. The committee, which includes scholars in the student's field of concentration, will thereafter guide and direct the student through his course study, research, and the writing of the thesis. Upon completion of the thesis, the candidate will defend it in an oral examination.

English and Comparative Literature

HAZARD ADAMS, *Professor of English and Chairman of the Department*

JOHN F. ADAMS, *Associate Professor of English*

HOWARD S. BABB, *Professor of English*

JOSEPH N. BELL, *Lecturer in English*

DONALD BRANNAN, *Acting Assistant Professor of English*

JAMES L. CALDERWOOD, *Associate Professor of English*

PETE E. CLECAK, *Assistant Professor of English*

PAUL FRIZLER, *Assistant Professor of English*

HARVEY GROSS, *Professor of English*

JAMES B. HALL, *Professor of English and Director of the Writing Center (on leave, 1967-68)*

OAKLEY HALL, *Visiting Lecturer in Fiction*

DONALD HEINEY, *Professor of Comparative Literature and Director of the Program in Comparative Literature*

JOHN HUDDLESTON, *Associate in English and Director of Subject A*

MARY KEY, *Assistant Professor of English*

MURRAY KRIEGER, *Professor of English*

JAMES MCMICHAEL, *Assistant Professor of English*

ROBERT L. MONTGOMERY, *Professor of English*

EDGAR T. SCHELL, *Assistant Professor of English*

STEPHEN SHAPIRO, *Assistant Professor of English*

HAROLD TOLIVER, *Associate Professor of English*

ALBERT O. WLECKE, *Acting Assistant Professor of English*

JOHN WOODS, *Visiting Professor of Poetry*

CHARLES P. WRIGHT, JR., *Assistant Professor of English and Acting Director of the Writing Center*

■ *English*

Subject A, a remedial course taken for no credit in the fundamentals of writing, is required of all students who, upon entrance, do not satisfy the Subject A requirement by examination. The

SUBJECT A

course includes the writing of papers in addition to drill in sentence and paragraph construction, diction, punctuation, grammar, and spelling. Satisfaction of the Subject A requirement is prerequisite to graduation and to all courses in English. The fee for taking the course is \$45.00. The Subject A examination is given for all incoming students once in April and again at the beginning of each quarter. There is a \$5.00 fee for the examination.

UNDERGRADUATE COURSES

- 5 *Thought and Process in Writing*
An introduction to the thought processes basic to all writing, the course rejects the traditional distinction between creative and expository writing and assumes that the imagination, as well as the logical powers must be employed for the production of the successful essay. Students enrolling in *English 5* are expected to continue into *English 10*.
- 10 *The Language of Argument* (1)
The art of writing the persuasive essay, with emphasis on logic and rhetoric. Prerequisite: *English 5*.
- 15 *Approaches to Literary Language* (1)
The writing of essays with respect to readings in modern literature and thought. Prerequisite: *English 10*.
- 20 *The Nature of Drama: Structure and Style* (1)
(Same as *Drama 20*.)
- 22 *Shakespeare* (1)
(Same as *Drama 22*.) An introduction to Shakespeare's plays.
- 23 *The Nature of Poetry* (1)
The reading of poetry with special attention to its variety, its conventions, and forms.
- 24 *The Nature of Fiction* (1)
The reading of prose fiction with special emphasis upon awareness of literary techniques.
- 26 *Literature and Society* (1)
An analysis of the social basis of popular and serious contemporary American literature.
- WR 30 *The Art of Writing: Poetry* (1)
Practice in the writing of poems, evaluations of student manuscripts, and parallel readings.
- WR 31 *The Art of Writing: Prose Fiction* (1)
Practice in the writing of prose fiction, evaluation of student manuscripts, and parallel readings.
- WR 32 *The Art of Writing: Drama* (1)
Practice in the writing of drama, evaluation of student manuscripts, and parallel readings.
- WR 38 *The Art of Writing: Non-Fiction and Journalism* (1)
Practice in the writing of non-fiction and news articles, evaluation of student manuscripts, projects.
- WR 39 *Advanced Expository Writing* (1)
Work toward developing further the ability to write clear and effective prose. Prerequisite: *English 10* or consent of instructor.
- 40A-40B-40C *Development of Drama* (1-1-1)
(Same as *Drama 40A-40B-40C*.)
- 100 *Junior Studies in Theory and Practice* (1-1)
Junior majors in English or Comparative Literature only. May

be taken twice, though topic and instructor must vary. Fall enrollment with director of course is necessary to reserve space for fall, winter, and spring sections.

- WR 109 *Non-Fiction and Journalism* (1) By consent.
- WR 110 *Short Story Writing* (1) By consent.
- WR 111 *Poetry Writing* (1) By consent.
- WR 112 *Playwriting* (1) By consent.
- WR 113 *Novel Writing* (1) By consent.
- WR 115 *Conference in Writing* (1)
Majors in the writing program, others by consent. May be repeated.
- WR 125 *Senior Workshop in Writing* (1)
Senior English majors in the writing program only.
- 130 *Literature and Politics* (1)
- 132 *Literature and Psychology* (1)
- 133 *Literature and Science* (1)
- 134 *Literature and the Other Arts* (1)
- 144 *Medieval and Tudor Drama: 900-1580* (1)
(Same as *Drama 144.*)
- 145 *Elizabethan and Jacobean Drama: 1580-1642* (1)
(Same as *Drama 145.*)
- 146 *Shakespeare* (1)
(Same as *Drama 146.*)
- 147 *Restoration and Eighteenth Century Drama* (1)
(Same as *Drama 147.*)
- 148 *Modern British Drama: 1870-1940* (1)
(Same as *Drama 148.*)
- 149 *Modern American Drama: 1870-1940* (1)
(Same as *Drama 149.*)
- 150 *Medieval Literature* (1)
- 155 *Renaissance English Literature* (1)
- 160 *17th Century English Literature* (1)
- 162 *18th Century English Literature* (1)
- 165 *Early Nineteenth Century English Literature* (1)
- 167 *Later Nineteenth Century English Literature* (1)
- 169 *Early Twentieth Century English Literature* (1)
- 171 *Early Nineteenth Century American Literature* (1)
- 172 *Later Nineteenth Century American Literature* (1)
- 173 *Early Twentieth Century American Literature* (1)
- 175 *Literature since 1945* (1)
- 176 *The Literary Situation: The Sixties* (1)
- 180 *Studies in Poetry* (1)
- 181 *The Novel* (1)
- 182 *Studies in Criticism* (1)
- 183 *Special Studies* (1)
- 184 *History of the English Language* (1)

- 185 *Introduction to Linguistics* (1)
 (Same as *Linguistics 100*.)
 186 *Modern English Grammar* (1)
 187 *Studies in Linguistics* (1)
 188 *Reading and Conference*
 By consent, by arrangement. May be repeated.
 189 *Senior Seminar in Criticism and Literary History* (1)
 Senior English majors in criticism only.

GRADUATE COURSES

All graduate courses may be repeated when the topic varies.

- 200 *Studies in the English Language* (1)
 201 *Studies in Linguistics* (1)
 210 *Studies in Literary History* (1)
 220 *Studies in Criticism* (1)
 225 *Studies in Literary Genres* (1)
 230 *Studies in Major Writers* (1)
 235 *Methods of Literary Scholarship* (1)
 240 *Rhetoric and Writing* (1)
 Teaching Assistants in English only, by consent.
Problems in Expository Writing (1)
 By consent.
 250 *Graduate Writers' Workshop* (1)
 By consent.
 251 *Writing in Conference* (½ to 1½)
 By consent.
 290 *Reading and Conference* (½ to 1½)
 By consent.

■ *Comparative Literature*

UNDERGRADUATE COURSES

- 101 *Studies in Literary Genres: Epic* (1)
 102 *Studies in Literary Genres: Tragedy* (1)
 103 *Studies in Literary Genres: Comedy* (1)
 104 *Studies in Literary Genres: Novel* (1)
 105 *Studies in Literary Genres: Lyric* (1)
 106 *Special Studies in Literary Genres* (1)
 (May be repeated when topic varies.)
 110 *Studies in Literary History and Relations: Renaissance* (1)
 111 *Studies in Literary History and Relations: Neoclassicism* (1)
 112 *Studies in Literary History and Relations: Romanticism* (1)
 113 *Studies in Literary History and Relations: Realism* (1)
 114 *Special Studies in Literary Movements* (1)
 (May be repeated when topic varies.)
 188 *Reading and Conference* (1) By permission.
 (May be repeated.)

GRADUATE COURSES

All graduate courses may be repeated when the topic varies.

- 210 *Comparative Studies* (1)
 220 *Problems in Translation* (1)
 290 *Reading and Conference* (1)

■ *Foreign Languages & Literatures*

- SEYMOUR MENTON, *Professor of Spanish and Portuguese and
 Chairman of the Department*
 HOWARD A. APPEL, *Supervisor of Teacher Education*
 RICHARD BARRUTIA, *Associate Professor of Spanish and Director
 of the Language Laboratory*
 KURT BERGEL, *Visiting Lecturer in German*
 LUCI B. BERKOWITZ, *Assistant Professor of Classics*
 THOMAS E. BERRY, *Assistant Professor of Russian*
 RAY D. BOSSERT, *Associate in German*
 THEODORE F. BRUNNER, *Assistant Professor of Classics*
 MARUXA CARGILL, *Associate in Spanish*
 HENRI DIAMENT, *Assistant Professor of French*
 RICHARD I. FRANK, *Assistant Professor of Classics and History*
 RAINER V. GRENEWITZ, *Acting Assistant Professor of Russian*
 JUDD D. HUBERT, *Professor of French*
 RENEE R. HUBERT, *Professor of French*
 ALICE M. LABORDE, *Assistant Professor of French*
 MARYLL LENKEY, *Lecturer in Classics*
 JOHN D. LINDBERG, *Assistant Professor of German (on leave,
 1967-68)*
 MILAN LOUPAL, *Associate in Russian*
 BERT NAGEL, *Professor of German*
 FELICIA O'CONNELL, *Associate in French*
 ANTONIO PAGES-LARRAYA, *Professor of Spanish*
 JULIAN PALLEY, *Associate Professor of Spanish*
 WILM A. PELTERS, *Assistant Professor of German*
 PAUL R. SCHIMMELPFENNIG, *Acting Assistant Professor of German*
 BARBARA TINDER, *Associate in German*
 FRANCO TONELLI, *Assistant Professor of French*
 JUAN VILLEGAS, *Associate Professor of Spanish*
 MARIS LYNNE WARD, *Associate in German*
 HENRY H. WEINBERG, *Assistant Professor of French*
 CELIA ZAPATA, *Associate in Spanish*

Students will be placed in foreign language courses according to their performance on a placement examination. In general, one year of high school work is equated with one quarter of UCI work. Students who present two years of high school foreign language may not enroll for credit in Foreign Language 1A;

students who present three years of high school foreign language may not enroll for credit in Foreign Language 1A or 1B. Students who present four years of high school foreign language may not enroll for credit in Foreign Language 1A, 1B, or 1C.

CHINESE

K1A-1B-1C *Fundamentals of Mandarin Chinese* (1-1-1)

A self-instructional course in the fundamentals of Mandarin Chinese for highly motivated students. Prerequisite: The consent of the examining professor.

CLASSICS

LOWER DIVISION COURSES

Greek 1A-1B-1C *Fundamentals of Greek* (1-1-1)

The elements of Greek grammar and syntax, with selected readings. 1C is devoted to readings from Plato's *Apology*.

Greek 2A-2B-2C *Intermediate Greek* (1-1-1)

Readings from major Greek authors. 2A: Prose and verse selections; 2B: Herodotus; 2C: Homer.

Latin 1A-1B-1C *Fundamentals of Latin* (1-1-1)

The elements of Latin grammar and syntax, with selected readings. 1C is devoted to reading and explicating Catullus.

Latin 2A-2B-2C *Intermediate Latin* (1-1-1)

Readings from major Roman authors. 2A: Ovid; 2B: Livy and Tacitus; 2C: Horace.

UPPER DIVISION COURSES

Greek 150A-150B-150C *Greek Literature in Translation* (1-1-1)

Greek 199 *Special Studies in Greek* (1) May be repeated.

Latin 150A-150B-150C *Latin Literature in Translation* (1-1-1)

Latin 199 *Special Studies in Latin* (1) May be repeated.

EDUCATION

02A *Methods of Teaching Foreign Languages*

Prerequisite: *Linguistics* 100 and senior standing as a foreign language major.

FRENCH

LOWER DIVISION COURSES

1A-1B-1C *Fundamentals of French* (1-1-1)

The fundamentals of the language will be presented audio-lingually five hours a week in the classroom and two hours a week in the language laboratory. Graded readers will be introduced as early as possible.

2A-2B-2C *French Reading and Composition* (1-1-1)

Prerequisite: Normally three years of high school French or one year of college French. Reading of properly graded material of

cultural significance. Oral and written composition based on the readings. Four hours a week in the classroom and assignments in the language laboratory when appropriate.

10A-10B *French Composition and Grammar Review* (1-1)

Prerequisite: Completion of *French 2C* or the equivalent. Writing compositions on a variety of themes, motivated and prepared in the classroom, and arranged in order of difficulty. Review of selected grammatical topics. Three classroom meetings per week plus one period a week for individual conferences.

11 *French Phonetics* (1)

Prerequisite: *French 10B*

12A-12B-12C *Introduction to French Literature* (1-1-1)

Prerequisite: Completion of *French 2C* or the equivalent.

UPPER DIVISION COURSES

The prerequisite for all upper division literature courses is *French 12A, 12B, 12C* or the equivalent.

105 *Advanced Composition and Stylistics* (1)

110 *French Civilization* (1)

Prerequisite: *French 10B* or the equivalent.

116A-116B-116C *Sixteenth Century French Literature* (1-1-1)

117A-117B-117C *Seventeenth Century French Literature* (1-1-1)

118A-118B-118C *Eighteenth Century French Literature* (1-1-1)

119A-119B-119C *Nineteenth Century French Literature* (1-1-1)

120A-120B-120C *Twentieth Century French Literature* (1-1-1)

150A-150B-150C *French Literature in Translation* (1-1-1)

199 *Special Studies in French* (1)

May be repeated.

GRADUATE COURSES

200A-200B *Romance Linguistics*. Historical development of modern Romance Languages from Vulgar Latin (1-1)

Prerequisite: *Fundamentals of Latin*; knowledge of French or Spanish or Italian.

201 *History of the French Language* (1)

Prerequisite: *Fundamentals of Latin*

202 *Contrastive French Phonology* (1)

203 *Contrastive French Morphology and Syntax* (1)

210A-210B-210C *Medieval Literature* (1-1-1)

216A-216B-216C *Renaissance Literature* (1-1-1)

217A-217B-217C *Classicism* (1-1-1)

218A-218B-218C *Enlightenment* (1-1-1)

219A-219B-219C *Romanticism* (1-1-1)

219D *The Realistic Novel* (1)

219E *Zola and the Naturalist Novel* (1)

220A-220B-220C *Modern French Novel* (1-1-1)

221A-221B-221C *Modern French Poetry* (1-1-1)

- 222A-222B *Modern French Theatre* (1-1)
 250 *Studies in French Language and Literature* (1)
 May be repeated.
 299 *Research in French Language and Literature* (1)
 May be repeated.

GERMAN

LOWER DIVISION COURSES

- 1A-1B-1C *Fundamentals of German* (1-1-1)
 The fundamentals of the language will be presented audio-lingually five hours a week in the classroom and two hours a week in the language laboratory. Graded readers will be introduced as early as possible.
- 2A-2B-2C *German Reading and Composition* (1-1-1)
 Prerequisite: Normally three years of high school German or one year of college German. Reading of properly graded material of cultural significance. Oral and written composition based on the readings. Four hours a week in the classroom and assignments in the language laboratory when appropriate.
- 10A-10B *German Composition and Grammar Review* (1-1)
 Prerequisite: Completion of *German 2C* or the equivalent. Writing compositions on a variety of themes, motivated and prepared in the classroom, and arranged in order of difficulty. Review of selected grammatical topics. Four classroom meetings per week.
- 11 *German Phonetics* (1)
 Prerequisite: *German 10B*.
- 12A-12B-12C *Introduction to German Literature* (1-1-1)
 Prerequisite: Completion of *German 2C* or the equivalent.

UPPER DIVISION COURSES

The prerequisite for all upper division literature courses is *German 12A, 12B, 12C, or the equivalent.*

- 105 *Advanced Composition and Stylistics* (1)
 110 *German Civilization* (1)
 Prerequisite: *German 10B* or the equivalent.
 Offered in odd-numbered years.
- 117A *German Literature from the Beginning to the Reformation* (1)
 Offered in even-numbered years.
- 117B *From the Reformation to Lessing* (1)
 Offered in even-numbered years.
- 118A *Lessing* (1)
 Offered in odd-numbered years.
- 118B *Goethe* (1)
 Offered in odd-numbered years.
- 118C *Schiller* (1)
 Offered in odd-numbered years.

- 119A *Romanticism* (1)
Offered in even-numbered years.
- 119B *Nineteenth Century Drama* (1)
Offered in even-numbered years.
- 119C *Nineteenth Century Prose* (1)
Offered in even-numbered years.
- 120A *Twentieth Century Drama* (1)
Offered in odd-numbered years.
- 120B *Twentieth Century Prose* (1)
Offered in odd-numbered years.
- 120C *Twentieth Century Lyric* (1)
Offered in odd-numbered years.
- 150A-150B-150C *German Literature in Translation* (1-1-1)
- 199 *Special Studies in German Literature* (1)
May be repeated.

GRADUATE COURSES

- 201A *History of the German Language* (1)
Offered in even-numbered years.
- 201B *Middle High German* (1)
Offered in even-numbered years.
- 217A *German Literature of the Middle Ages* (1)
Offered in odd-numbered years.
- 217B *Renaissance, Reformation and Baroque Literature* (1)
Offered in odd-numbered years.
- 217C *German Literature from Weisse to Lessing* (1)
Offered in odd-numbered years.
- 218A *The Enlightenment* (1)
Offered in even-numbered years.
- 218B *The "Sturm und Drang" Period* (1)
Offered in even-numbered years.
- 218C *The Classical Period* (1)
Offered in even-numbered years.
- 219A *Early Nineteenth Century Literature* (1)
Offered in odd-numbered years.
- 219B *Nineteenth Century Drama* (1)
Offered in odd-numbered years.
- 219C *Nineteenth Century Prose* (1)
Offered in odd-numbered years.
- 220A *Modern German Literature—Drama* (1)
Offered in even-numbered years.
- 220B *Modern German Literature—Prose* (1)
Offered in even-numbered years.
- 220C *Modern German Literature—Lyric* (1)
Offered in even-numbered years.
- 299 *Research in German Language and Literature* (1)
May be repeated.

ITALIAN

K1A-1B-1C *Fundamentals of Italian* (1-1-1)

A self-instructional course in the fundamentals of Italian for highly motivated students who have already studied two years of another foreign language at the college level. Students will work at their own speed in the language laboratory and will be tested in the middle and at the end of each quarter.

LINGUISTICS

100 *Introduction to Linguistics* (1)

Prerequisite: Two years of college English or foreign language.

199 *Special Studies in Linguistics* (1)

May be repeated.

PORTUGUESE

K1A-1B-1C *Fundamentals of Portuguese* (1-1-1)

A self-instructional course in the fundamentals of Portuguese for highly motivated students who have already studied two years of another foreign language at the college level. Students will work at their own speed in the language laboratory and will be tested in the middle and at the end of each quarter.

2A-2B-2C *Portuguese Reading and Composition* (1-1-1)

Prerequisite: One year of college Portuguese or the equivalent.

RUSSIAN

LOWER DIVISION COURSES

1A-1B-1C *Fundamentals of Russian* (1-1-1)2A-2B-2C *Second year Russian* (1-1-1)

Completion of the fundamentals of Russian; reading and composition. Prerequisite: Normally three years of high school Russian or one year of college Russian.

10A-10B *Russian Composition and Grammar Review* (1-1)

Prerequisite: Completion of *Russian 2C* or the equivalent. Writing compositions on a variety of themes, motivated and prepared in the classroom, and arranged in order of difficulty. Review of selected grammatical topics. Four classroom meetings per week.

11 *Russian Phonetics* (1)

Prerequisite: *Russian 10B*.

UPPER DIVISION COURSES

150A-150B-150C *Russian Literature in Translation* (1-1-1)

SPANISH

LOWER DIVISION COURSES

1A-1B-1C *Fundamentals of Spanish* (1-1-1)2A-2B-2C *Spanish Reading and Composition* (1-1-1)

Prerequisite: Normally three years of high school Spanish or one year college Spanish.

- 10A-10B *Spanish Composition and Grammar Review* (1-1)
Prerequisite: Completion of *Spanish 2C* or the equivalent. Writing compositions on a variety of themes, motivated and prepared in the classroom, and arranged in order of difficulty. Review of selected grammatical topics. Four classroom meetings per week.
- 11 *Spanish Phonetics* (1)
Prerequisite: *Spanish 10B*.
- 12A-12B-12C *Introduction to Hispanic Literature* (1-1-1)
Prerequisite: Completion of *Spanish 2C* or the equivalent.

UPPER DIVISION COURSES

The prerequisite for all upper division literature courses is *Spanish 12A, 12B, 12C* or the equivalent.

- 105 *Advanced Composition and Stylistics* (1)
- 110 *Hispanic Civilization* (1)
Prerequisite: *Spanish 10B* or the equivalent.
- 117A-117B-117C *Golden Age Literature* (1-1-1)
- 119A-119B-119C *Nineteenth Century Spanish Literature* (1-1-1)
- 120A-120B-120C *Twentieth Century Spanish Literature* (1-1-1)
- 130A-130B-130C *Spanish-American Prose Fiction* (1-1-1)
- 131 *Spanish-American Modernism* (1)
- 132 *Spanish-American Theatre* (1)
- 199 *Special Studies in Spanish* (1)
May be repeated.

GRADUATE COURSES

- 200A-200B *Romance Linguistics* (1-1)
Prerequisite: *Fundamentals of Latin*. Knowledge of French or Spanish or Italian.
- 201 *History of the Spanish Language* (1)
Prerequisite: *Fundamentals of Latin*
- 202 *Contrastive Spanish Phonology* (1)
- 203 *Contrastive Spanish Morphology and Syntax* (1)
- 210A-210B-210C *Medieval Literature* (1-1-1)
- 215A-215B-215C *Golden Age Prose Fiction* (1-1-1)
- 216A-216B *Golden Age Lyric Poetry* (1-1)
- 217A-217B *Golden Age Theatre* (1-1)
- 220A-220B-220C *Modern Spanish Novel* (1-1-1)
- 221A-221B-221C *Modern Spanish Poetry* (1-1-1)
- 222A-222B-222C *Modern Spanish Theatre* (1-1-1)
- 233A-233B-233C *Twentieth Century Spanish-American Prose Fiction* (1-1-1)
- 234A-234B-234C *Spanish-American Poetry* (1-1-1)
- 250 *Studies in Spanish Language and Literature* (1)
May be repeated.
- 299 *Research in Spanish Language and Literature* (1)
May be repeated.

SWEDISH

K1A-1B-1C *Fundamentals of Swedish* (1-1-1)

A self-instructional course in the fundamentals of Swedish for highly motivated students who have already studied two years of another foreign language at the college level. Students will work at their own speed in the language laboratory and will be tested in the middle and at the end of each quarter.

■ *History*

HENRY CORD MEYER, *Professor of History and Chairman of the Department*

KENNETH P. BAILEY, *Lecturer in History and Education*

RICHARD I. FRANK, *Assistant Professor of History and Classics*

LEWIS HANKE, *Professor of History*

KARL G. HUFBAUER, *Acting Assistant Professor of History*

JON S. JACOBSON, *Assistant Professor of History*

GEORGE W. KENT, *Assistant Professor of History*

R. ALAN LAWSON, *Assistant Professor of History*

ROBERT H. LUCAS, *Assistant Professor of History*

ARTHUR J. MARDER, *Professor of History*

SAMUEL C. McCULLOCH, *Professor of History and Dean of Humanities*

KEITH L. NELSON, *Assistant Professor of History*

SPENCER C. OLIN, JR., *Assistant Professor of History and Coordinator of Academic Advising*

JAMES ALAN ROGERS, *Acting Assistant Professor of History*

FRESHMAN-SOPHOMORE COURSES

10A-10B-10C *Western Traditions* (1-1-1) fall, winter, spring

The more important ideas, institutions, and events in the history of Europe that have moulded the Western way of life.

Fall: from the ancient Near East through the early Middle Ages;

Winter: from the later Middle Ages to the mid-seventeenth century;

Spring: from the mid-seventeenth century to the present.

50A-50B-50C *American Thought and Culture* (1-1-1) fall, winter, spring

American social and intellectual history from colonial times to the present, focusing on the ideas, systems of thought, and individuals most prominent in the formation of American society.

70A-70B-70C *Latin American Civilization* (1-1-1) fall, winter, spring

Fall: Intermingling of pre-Columbian, Iberian and African cultures on the Latin American scene; ideas and institutions of the colonial era.

Winter: Revolutions and the emergence of the Latin-American nations; recent pressures of social change and new dimensions of world influence.

Spring: The development of Brazil from the fifteenth to the twentieth century; its relations with the European and American continents.

- 80A-80B-80C *East Asian Civilizations* (1-1-1) fall, winter, spring
Human geography of East Asia, evolution of man and culture, social and political configurations under the great empires, impact of the West, and modern problems of growth and change.

JUNIOR-SENIOR COURSES

- 100 *History and Historians* (1) fall
101A-101B-101C *British Traditions and Institutions* (1-1-1)
Not offered in 1967-68; to be offered in 1968-69.
106A-106B-106C *History of Scientific Thought and Technique* (1-1-1)
fall, winter, spring
Open to sophomores. Prerequisite: three courses in college science.
109 *Scientists and Social Forces: Darwin and his Times* (1)
Prerequisite: one quarter of *History* 106. Not offered in 1967-68.
110B-110C *Hellenic and Hellenistic Greece* (1-1) winter, spring
115 *Early Medieval Europe 300-1000* (1) fall
116 *The High Middle Ages, 1000-1300* (1) spring
117 *Topics in Medieval History* (1)
Not offered in 1967-68.
130A *Europe in the Nineteenth Century* (1) fall
130B *Europe in the Twentieth Century* (1) winter
135 *Themes in European International Relations, 1848-1939* (1) spring
146B-146C *Constitutional and Legal History of England* (1-1) winter, spring
152 *Great Britain in the Twentieth Century* (1) winter
153B-153C *The British Commonwealth and Empire* (1-1)
Not offered in 1967-68.
162 *Contemporary Latin America* (1) spring
166A *Colonial America* (1) fall
166B *National America* (1) winter
170 *The United States in the Twentieth Century* (1) spring
174 *Intellectual Currents in Twentieth-Century America* (1)
Not offered in 1967-68.
175 *California in Modern America* (1)
Not offered in 1967-68.
176B-176C *History of American Foreign Relations* (1-1) winter, spring
179 *America in World Perspectives* (1) spring
180A-180B *Cultural History of China* (1-1) fall, winter
183 *The Chinese Revolution, 1911-1966* (1)
Not offered in 1967-68.
190 *Independent Reading* (1) fall, winter, spring
May be repeated. By consent.
191 *Special Topics* (1) fall, winter, spring
May be repeated.

- 199 *Senior Seminar* (1) fall, winter, spring
Various topics in different quarters. Consult quarterly schedules of course offerings.

GRADUATE COURSES

- 200 *The Nature of History* (1) fall
201 *Humanistic and Scientific Methodology* (1) winter
202 *Classic Historical Problems* (1) spring
207 *Colloquium: Science and Western Society in the Modern Era* (1) winter
229 *Colloquium: Nineteenth-Century Europe (1789-1920)* (1) fall
249 *Colloquium: British Imperial History* (1) fall
255BC *Seminar: Twentieth-Century Britain* (1-1) winter, spring
266 *Colloquium: Colonial and National America* (1) fall
274BC *Seminar: American Intellectual History* (1-1) winter, spring
279 *Colloquium: America in World Perspectives* (1) spring
290 *Independent Reading* (1) fall, winter, spring
May be repeated. By consent.
291 *Special Topics* (1) fall, winter, spring
May be repeated. By consent.

■ *Philosophy*

A. I. MELDEN, *Professor of Philosophy and Chairman of the Department*

GORDON G. BRITTAN, *Assistant Professor of Philosophy*

DANIEL C. DENNETT, *Assistant Professor of Philosophy*

JOSEPH F. LAMBERT, *Professor of Philosophy*

STANLEY M. MUNSAT, *Assistant Professor of Philosophy*

JASON L. SAUNDERS, *Professor of Philosophy (Professor of Philosophy, U.C., San Diego)*

GUY J. SIRCELLO, *Assistant Professor of Philosophy*

JOHN M. VICKERS, *Lecturer*

UNDERGRADUATE COURSES

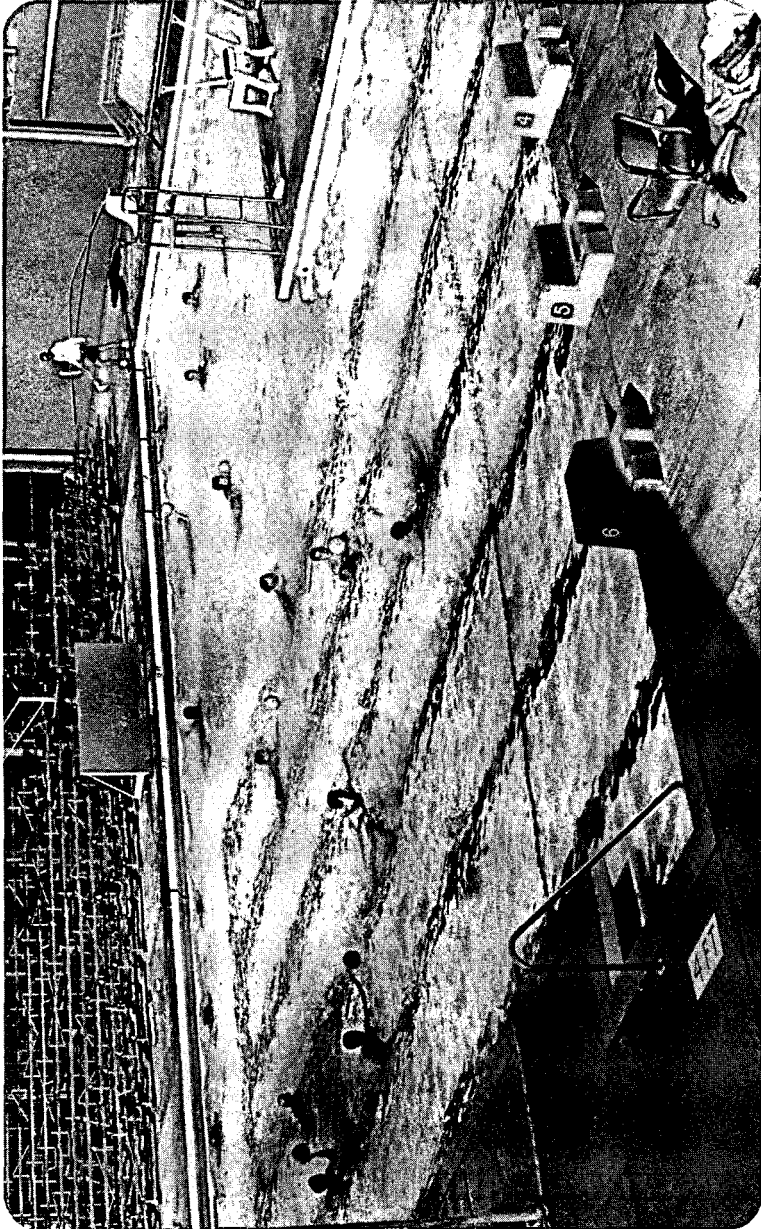
- 5 *Problems of Philosophy* (1) fall, winter, spring
10 *Elements of Logic* (1) fall, winter, spring
15 *Introduction to Ethics* (1) spring
20A *History of Ancient Philosophy* (1) fall
Prerequisite: *Philosophy* 5 or permission of instructor.
20B *History of Medieval Philosophy* (1) winter
Prerequisite: *Philosophy* 20A.
20C *History of Modern Philosophy* (1) spring
Prerequisite: *Philosophy* 20B.
25 *Philosophical Classics* (1) fall

- 51 *Introduction to Mathematical Logic* (1) fall
No prerequisite.
Unless otherwise specified, one course in philosophy is required for each of the following courses. In special cases the requirement may be waived. Inquiries should be directed to the staff.
- 100 *Metaphysics* (1) winter
Prerequisite: *Philosophy* 20 A, B, and C or permission of instructor.
- 101 *Intermediate Mathematical Logic* (1) winter
Prerequisite: *Philosophy* 51 or its equivalent.
- 110 *Theory of Knowledge* (1) winter
Prerequisite: *Philosophy* 20 A, B, and C, or permission of instructor.
- 111 *Introduction to Set Theory* (1) spring
Prerequisite: *Philosophy* 101 or its equivalent.
- 115 *Ethical Theory* (1) fall
Prerequisite: *Philosophy* 15.
- 120 *Introduction to Aesthetics* (1) winter
- 125 *Theory of Art and Criticism* (1) not offered in 1967-68.
Prerequisite: *Philosophy* 120 or permission of the instructor.
- 130 *Philosophy of Mind* (1) fall
Prerequisite: *Philosophy* 20 A, B, and C, or permission of instructor.
- 135 *Philosophy of Language* (1) winter
- 140 *Philosophy of History* (1) fall
- 150 *Philosophy of Logic* (1) spring
Prerequisite: *Philosophy* 51 or its equivalent.
- 160 *Introduction to the Philosophy of Science* (1) spring
- 170 *British Empiricism* (1) spring
Prerequisite: *History of Modern Philosophy* or permission of the instructor.
- 180 *Philosophy of Kant* (1) fall
Prerequisite: *History of Modern Philosophy* or permission of the instructor.
- 189 *Philosophy of Sartre* (1) winter
- 190 *Directed Special Studies* (1) fall, winter, spring
May be repeated for credit.
- 191 *Contemporary Analytic Philosophy* (1) spring
May be repeated for credit.
- 199 *Honors Thesis* (1) fall, winter, spring
May be repeated for credit.

GRADUATE COURSES

Since seminar and graduate course topics vary with the occasions on which they are offered, they may be repeated for credit.

- 200 *Seminar in the History of Philosophy* (1) fall
Prerequisite: Approval of the chairman.
- 201 *Seminar in the Philosophy of Plato* (1) not offered in 1967-68.
Prerequisite: Approval of the chairman.
- 210 *Seminar in Theory of Knowledge* (1) spring
Prerequisite: Approval of the chairman.
- 211 *Seminar in Logic* (1) fall
Prerequisite: Approval of the chairman.
- 215 *Seminar in Ethics* (1) winter
Prerequisite: Approval of the chairman.
- 220 *Seminar in Aesthetics* (1) spring
Prerequisite: Approval of the chairman.
- 240 *Seminar in Metaphysics* (1) winter
Prerequisite: Approval of the chairman.
- 299 *Directed Research* (1) fall, winter, spring
Prerequisite: Approval of the chairman.



THE FACULTY

WAYNE H. CRAWFORD, *Associate Professor of Physical Education*

RICHARD L. DAVIS, *Associate Supervisor of Physical Education*

LINDA B. DEMPSAY, *Junior Supervisor of Physical Education*

ALBERT M. IRWIN, *Associate Supervisor of Physical Education*

EDWARD H. NEWLAND, *Lecturer in Physical Education*

RAYMOND H. THORNTON, *Associate Supervisor of Physical Education*

TIMOTHY M. TIFT, *Lecturer in Physical Education*

Classes in physical education are available to all students on an elective basis but are not required for graduation. Courses will be counted toward a degree at the rate of one-sixth of a course per class up to a total of one course credit.

Emphasis is placed on activities having lifetime values and those of particular interest in southern California.

All sports facilities will be open for the recreational use of students and staff when not occupied by classes or athletic teams.

Courses

1A-1B-1C *Physical Education* (1/6-1/6-1/6) fall, winter, spring

May be repeated.

Sections in archery, badminton, body building, rowing, dance (social and folk), fencing, golf, gymnastics, handball, judo, life-saving, scuba diving, squash racquets, swimming, tennis, volleyball, water polo, individual exercises for women, equitation and horsemanship, and sailing.

THE DEPARTMENT OF PHYSICAL EDUCATION

WAYNE H. CRAWFORD,
Chairman

2



The Division of Physical Sciences offers both pre-professional 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 Division are designed to meet the needs of a wide variety of students—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 well-defined departmental structure of the Division of Physical Sciences. In the same period, these fundamental disciplines have moved into domains of abstraction unimagined by early scientists, whose view of nature and of number was tied to direct sense-perception. This trend to abstraction provides the major challenge to the student of the physical sciences. At the same time, it is the key to the unparalleled modern power of these disciplines. 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.

THE DIVISION OF
PHYSICAL
SCIENCES

FREDERICK REINES, *Dean*

2

Undergraduate Programs

In the belief that both understanding and satisfaction follow more from depth than from breadth, the Division offers no general survey course. Instead, each Department offers courses that are of value both to nonmajors and majors in the sciences. In each Department, the program for majors is designed to meet the needs both of students planning careers in other fields and of students planning graduate work that continues their major interest.

The undergraduate student, in consultation with his advisor, will choose courses of study leading to a major in one department. In carrying out this major, the student will often concen-

trate very heavily in a second department within the Division, and, less frequently, will complete a double major.

All initial courses of study for majors include mathematics through calculus, and calculus is a prerequisite to much of the junior-senior work in each major. A student interested in any of the physical sciences should continue his mathematical training. Similarly, 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 more and more the international language of science, much important scientific literature is still printed in foreign languages, and, to an ever-increasing extent, scientists travel and need to communicate in person with foreign colleagues. Comprehension of at least one of the languages, Russian, German, or French, is an integral part of the preparation for a major in physical sciences. The divisional requirement may be met by two years of work in a college or university with a final grade of C or better. Chemistry and mathematics majors may, alternatively, pass a technical reading examination in the foreign language. Physical sciences majors may enroll in language courses on a pass-not pass basis, and may exercise the credit-by-examination option in a course numbered 2C, in which a grade of C or better is required.

Precise and clear expression in written English will be expected in course work in the Division. Students found wanting may be required to enroll in *English* 5-10-15.

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 Communication Sciences* 1.

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 Division. The individual programs are described in the following announcements of each department.

■ DEPARTMENT OF CHEMISTRY

Undergraduate Program

The chemistry curriculum is designed to satisfy the needs of non-science students and of students concentrating in disciplines related to chemistry as well as those of students majoring in chemistry. The year course in general chemistry (*Chemistry* 1) serves equally as a prerequisite to the study of chemistry at more advanced levels and as a terminal course which provides an in-

roduction to the varied aspects of modern chemistry for those not wishing to pursue further studies in this area. It is followed by a comprehensive one-year course in organic chemistry (*Chemistry 51*) which is required for chemistry majors, and which will also be of particular interest and importance for students preparing for careers in biology and medicine. In the third year the chemistry major will normally enroll in the lecture course in physical chemistry (*Chemistry 131*) and in the three-quarter quantitative laboratory sequence (*Chemistry 71, Chemistry 151, Chemistry 152*). These courses, emphasizing the quantitative aspects of modern chemistry, will likewise be valuable for graduate and undergraduate students in biology. Junior transfer chemistry majors who, after consultation with their advisor, find they are deficient in organic chemistry may postpone all or part of the quantitative laboratory sequence until the senior year. For such persons the junior year enrollment should include organic chemistry and physical chemistry. For completion of the chemistry major three additional chemistry courses are required, and these are normally taken in the senior year. They may be elected from the senior-graduate courses numbered 160-233, but no more than two quarters of undergraduate research (*Chemistry 180*) can be counted toward the total of three. Since the field of chemistry ranges from close contact with biological sciences (biochemistry) on the one hand to physics (chemical physics) on the other, the remainder of the student's program may be selected to suit individual interests. These choices include not only the options in the senior year described above but also the choice of courses in mathematics and other sciences to meet the requirements of the major. (See requirements for the chemistry major under the Academic Plan, Part 1 of the Catalogue).

The divisional foreign language requirement may be met by four years of work in one language (Russian, German or French) in high school, or by two years of work in one of these languages in a college or university, or by passing the final examination in a UCI language course numbered 2C. Chemistry majors may alternatively satisfy the requirement by obtaining a satisfactory grade on a technical reading examination administered by the University. Further description of the details of this examination are available for the student's inspection in the Chemistry Department Office.

An honors program in chemistry emphasizes close contact with research and is open by permission of the department to students of superior ability and preparation. Participants in the program will be expected to engage in research under the direction of a staff member and should, if possible, enroll in the Honors sections of the undergraduate courses.

There follow below three sample programs which illustrate some of the many possible ways in which a chemistry major might arrange his schedule of courses. Only courses required or recommended by the division or department are listed explicitly. Six quarters of foreign language are included in all three programs on the assumption that the majority of students will choose to satisfy the divisional language requirement through course work. Courses listed as electives may be used as needed to satisfy University and College requirements listed in Part 1 of the catalogue. It should be recognized that courses such as foreign language or biological science which count toward divisional or departmental requirements may be used simultaneously to satisfy College requirements if desired. Programs B and C below contain, respectively, recommendations regarding suitable course work for those wishing to pursue graduate studies in biochemistry and chemical physics.

TYPICAL PROGRAMS FOR UNDERGRADUATE CHEMISTRY MAJORS

A.		FALL	WINTER	SPRING
FIRST YEAR		<i>ICS 1</i>	<i>Physics 5A</i>	<i>Physics 5B</i>
		<i>Math 2A</i>	<i>Math 2B</i>	<i>Math 2C</i>
		Elective	Elective	Elective
		<i>Chem 1A</i>	<i>Chem 1B</i>	<i>Chem 1C</i>
SECOND YEAR		FALL	WINTER	SPRING
		<i>Physics 5C</i>	<i>Physics 5D</i>	<i>Physics 5E</i>
		<i>Math 3A</i>	<i>Math 3B</i>	<i>Math 3C</i>
		Elective	Elective	Elective
THIRD YEAR		FALL	WINTER	SPRING
		For. Lang.	For. Lang.	For. Lang.
		Elective	Elective	Elective
		<i>Chem 131A</i>	<i>Chem 131B</i>	<i>Chem 131C</i>
FOURTH YEAR		<i>Chem 71</i>	<i>Chem 151</i>	<i>Chem 152</i>
		FALL	WINTER	SPRING
		For. Lang.	For. Lang.	For. Lang.
		Elective	Elective	Elective
	<i>Math 100A</i>	<i>Chem 180</i>	<i>Chem 180</i>	
	<i>Chem 211</i>	<i>Chem 213</i>	<i>Chem 205</i>	

B.		FALL	WINTER	SPRING
FIRST YEAR		Elective	Elective	Elective
		<i>Math 2A</i>	<i>Math 2B</i>	<i>Math 2C</i>
		<i>Bio. Sci. 1A</i>	<i>Bio. Sci. 1B</i>	<i>Bio. Sci. 1C</i>
		<i>Chem 1A</i>	<i>Chem 1B</i>	<i>Chem 1C</i>
SECOND YEAR		FALL	WINTER	SPRING
		Elective	Elective	Elective
		<i>Math 3A</i>	<i>Math 3B</i>	<i>Math 3C</i>
		<i>Chem 71</i>	<i>Physics 5A</i>	<i>Physics 5B</i>
THIRD YEAR		FALL	WINTER	SPRING
		For. Lang.	For. Lang.	For. Lang.
		<i>Bio. Sci. 101</i>	<i>Bio. Sci. 102</i>	<i>Bio. Sci. 106</i>
		<i>Chem 131A</i>	<i>Chem 131B</i>	<i>Chem 131C</i>
FOURTH YEAR		FALL	WINTER	SPRING
		For. Lang.	For. Lang.	For. Lang.
		Elective	Elective	Elective
		Elective	Elective	<i>Bio. Sci. 204</i>
	<i>Chem 211</i>	<i>Chem 213</i>	<i>Chem 205</i>	

C.		FALL	WINTER	SPRING
FIRST YEAR		<i>ICS 1</i>	<i>Physics 5A</i>	<i>Physics 5B</i>
		<i>Math 2A</i>	<i>Math 2B</i>	<i>Math 2C</i>
		Elective	Elective	Elective
		<i>Chem 1A</i>	<i>Chem 1B</i>	<i>Chem 1C</i>
SECOND YEAR		FALL	WINTER	SPRING
		<i>Physics 5C</i>	<i>Physics 5D</i>	<i>Physics 5E</i>
		<i>Math 3A</i>	<i>Math 3B</i>	<i>Math 3C</i>
		For. Lang.	For. Lang.	For. Lang.
THIRD YEAR		FALL	WINTER	SPRING
		For. Lang.	For. Lang.	For. Lang.
		<i>Physics 111</i>	Elective	Elective
		<i>Chem 131A</i>	<i>Chem 131B</i>	<i>Chem 131C</i>
FOURTH YEAR		<i>Chem 71</i>	<i>Chem 151</i>	<i>Chem 152</i>
		FALL	WINTER	SPRING
		<i>Math 100A</i>	<i>Math 100B</i>	<i>Math 100C</i>
		Elective	Elective	Elective
	<i>Chem 231</i>	Elective	<i>Chem 232</i>	
	<i>Physics 114</i>	<i>Chem 180</i>	Elective	

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 examination in defense of original research propositions. The first examination is the key one for candidates for the M.A. degree, while 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.

THE 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 of residence is required. The requirements for the two plans are:

Plan I: Thesis Plan

1. A reading knowledge of one foreign language—(Russian, German, or French).
2. Successful completion of the area examinations.
3. Completion of an original dissertation.

Plan II: Course-examination Plan

1. A reading knowledge of one foreign language—(Russian, German, or French).
2. Successful completion of the area examinations.
3. Completion of 10 courses in chemistry at the 200 level with a grade of B or better in each.

The procedures for meeting the foreign language requirement and for passing the area examinations are described in more detail in the section on the Ph.D. degree. The dissertation 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.

THE DOCTOR OF PHILOSOPHY IN CHEMISTRY

The principal requirements for the Ph.D. degree in chemistry are six quarters of residence, admission to candidacy, and successful completion and defense of a dissertation reporting results of original research. The Ph.D. candidate must also demonstrate competence in two foreign languages from among the three: Russian, German, and French.

1. *Residence.* As many as three of the six quarters of residence may be waived for students who have had graduate work at another institution.

2. *Admission to candidacy.* Students entering graduate work in the program leading to the Ph.D. degree must pass area examinations in each of these three general fields of chemistry: physical chemistry; organic chemistry; inorganic and nuclear chemistry. These 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 monthly cumulative examinations, more closely oriented toward current chemical research, are also taken, beginning in the second quarter of residence. The cumulative examination requirement—completion of four successful examinations—must be met by the end of the fifth quarter of residence.

An oral examination on original research propositions, and on the student's thesis research topic, is given in the quarter 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 first oral examination, one reexamination is permitted within three months of the first.

Students must achieve admission to candidacy before the beginning of their third year 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-level courses. No minimum number is specified, however, and excellent performance on the area examinations will usually result in a smaller number of specified courses for the student.

4. *Foreign Language Requirements.* These requirements may be met by passing the final examination in *Russian 2C*, *German 2C*, or *French 2C*, or an equivalent special examination administered by the Department of Foreign Languages and Literatures.

5. *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 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 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, three 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.

■ DEPARTMENT OF MATHEMATICS

Undergraduate Program

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 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.

Graduate Programs

Graduate courses are designed to meet the needs of students doing graduate work in mathematics and in such disciplines as 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, logic and computers, advanced numerical analysis.

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.

THE MASTER OF ARTS IN MATHEMATICS

The Master's degree programs serve a dual purpose: a) for some they serve as terminal programs of mathematical education; b) for others they serve as programs leading to study and research aimed at the Doctor of Philosophy degree. However, a candidate having no 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, demonstrated competence and knowledge of algebra, analysis, and geometry/topology are required for this degree. Examinations, both written and 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 and/or oral) designed to test the competence of the candidate in the fields of algebra, analysis, and geometry/topology.

Plan II for the Master's degree requires the equivalent of the successful completion of at least twelve courses (at least eight at the graduate level) and the passing of examinations (written and/or oral) designed to test the competence of the candidate in the fields of algebra, analysis, and geometry/topology.

THE 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 research. He is expected to have breadth in that he is required to demonstrate advanced knowledge and competence in algebra, analysis, and geometry/topology. He is expected to have depth in that he is required to be profoundly familiar with a well-defined subject in mathematics, e.g., Branch algebras, group theory, operator theory, probability theory, topology categorical algebra.

There are two general requirements for the Ph.D.; a) the passing of written and/or oral examinations, and b) 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.

■ DEPARTMENT OF PHYSICS

Undergraduate Program

The department offers two beginning courses, *Physics 3* (three quarters) and *Physics 5* (five quarters). *Physics 5* assumes a knowledge of calculus; *Physics 3* does not. The calculus requirement for *Physics 5AB* may be met by concurrent enrollment in *Mathematics 2BC*. Associated with each of these courses is a laboratory; the *Physics 3* laboratory extending over two quarters, the *Physics 5* laboratory over four quarters. The laboratory work is not intended to verify and directly reinforce the lecture material. Rather, it is intended to teach those aspects of physics and physical measurement that are more appropriately studied in a laboratory than in a lecture. Students enrolling in *Physics 5A* in the winter quarter should normally take *Information and Communication Sciences 1* in the preceding fall quarter.

Three different curricula are available for the undergraduate study of physics. The first is intended primarily for students not majoring in the sciences, who seek a coherent understanding of physics in one or two years. The first year (*Physics 3*) covers the basic laws of physics with emphasis on modern applications and insights. Junior-senior courses numbered between 100 and 109 permit the student in a second year to pursue specific parts of physics in depth without the requirement of advanced mathematics.

A second curriculum is intended for physics majors not planning to pursue the study of physics beyond the bachelor's degree level. Following *Physics 5*, these students should include in their programs several courses numbered between 130 and 149. These courses apply theory to a wide variety of phenomena, and emphasize the unifying threads of modern physics. (Choice of this curriculum in no way precludes graduate study in physics.)

For physics majors preparing for professional careers in physics, a third curriculum emphasizes the mathematical and theoretical foundations of physics. These students should include the six-quarter sequence, *Physics* 111-116, in their programs. This sequence may be started in the sophomore year, concurrent with *Physics* 5CDE. Some course work drawn from the *Physics* 131 series is also strongly recommended for students preparing for graduate work.

These curricula are intended only as general guidelines; all courses are open to adequately prepared students. Students not majoring in the sciences who are strong in mathematics may take *Physics* 5 with profit instead of *Physics* 3. A student who decides to major in physics after completing *Physics* 3 with an A or a B may, with permission of the department, transfer into *Physics* 5C. The premedical physics requirements may be met with *Physics* 3ABC, or with *Physics* 5ABC.

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 graduate students take an entrance examination shortly after arriving on campus. This examination is not "passed" or "failed." It serves only to help the student and his advisor decide on the best program of study.

In addition to 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 the life of the department.

THE 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, nine graduate courses (200 series) 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.

THE 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 report-

ing results of original research. In addition, the Ph.D. candidate must complete moderate graduate course requirements and must demonstrate ability in one language, Russian, German, or French.

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 pass, with an average grade of B or better, six graduate-level courses (e.g., two three-course sequences) other than the basic courses, *Mathematical Physics*, *Electromagnetic Theory*, and *Quantum Mechanics*.

3. *Foreign Language Requirement.* This requirement may be met by passing with a grade of C or better the final examination in *Russian 2C*, *German 2C*, or *French 2C*, or a special examination administered by the Department of Foreign Languages and Literatures.

4. *Qualifying Examination.* For advancement to Ph.D. candidacy, a student must pass a qualifying examination consisting of a written and an oral part. The written part covers a broad range of the fundamentals of physics at the advanced undergraduate and graduate levels. Normally the M. A. comprehensive examination and the written Ph.D. qualifying examination will be identical, with a higher level of performance required for Ph.D. qualification. A student should plan to take this examination before the end of his second 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.

Upon successful completion of the written examination, the student is examined orally by a committee composed of physics faculty members and one or two representatives from other departments. This examination completes the requirements of Ph.D. qualification. Like the written examination, it may be attempted more than twice only under extraordinary circumstances.

5. *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.

6. *Defense of Dissertation.* Upon completion of the dissertation, the student will take an oral examination, open to the public, before his doctoral committee.

■ Chemistry

F. S. ROWLAND, *Professor of Chemistry and Chairman of the Department*

DAVID A. BRANT, *Assistant Professor of Chemistry*

DON L. BUNKER, *Associate Professor of Chemistry*

MARJORIE C. CASERIO, *Associate Professor of Chemistry*

DONALD ROBERT DAVIS, *Assistant Professor of Chemistry*

ROBERT J. DOEDENS, *Assistant Professor of Chemistry*

MICHAEL H. FISCH, *Assistant Professor of Chemistry*

DONALD F. GURKA, *Instructor in Chemistry*

HAROLD H. HARRIS, *Instructor in Chemistry*

EDWARD K. C. LEE, *Assistant Professor of Chemistry*

GEORGE E. MILLER, *Lecturer in Chemistry*

HAROLD W. MOORE, *Assistant Professor of Chemistry*

THOMAS SMAIL, *Instructor in Chemistry*

ROBERT W. TAFT, *Professor of Chemistry*

WILLIAM E. WATERS, *Instructor in Chemistry*

UNDERGRADUATE COURSES

1A-1B-1C *General Chemistry* (1-1-1) fall, winter, spring

Lecture, three hours; discussion, one hour; laboratory, four hours. Prerequisites for 1A: high school chemistry, high school physics, three years of high school mathematics. Prerequisites for 1B and 1C: successful completion of previous courses in the sequence. Concurrent enrollment in calculus will be useful but is not required. Students lacking some prerequisites may be admitted by permission of the department.

The course provides a broad introduction to the theoretical foundations and practice of modern chemistry. Principles are illustrated through the systematic study of the descriptive chemistry of the elements. The laboratory experiments demonstrate general principles and develop laboratory technique. Topics of study: stoichiometry, phenomenological gas laws, kinetic theory of gases, the electronic structure of the atom, the nucleus, the chemical bond, properties of solids, properties of liquids and liquid mixtures, chemical equilibrium, aqueous ionic equilibria, oxidation-reduction equilibria, chemical thermodynamics, chemical kinetics, periodic properties of the elements, systematic descriptive chemistry of the elements.

11A-11B-11C *Honors General Chemistry* (1-1-1) fall, winter, spring

A course designed for the student with superior ability and preparation. The format and syllabus are identical with those of *Chemistry 1*, but topics will be developed more extensively and the laboratory will provide greater opportunity for exercise of individual initiative in design and execution of experiments. Admission by permission of the department.

- 51A-51B-51C *Organic Chemistry* (1-1-1) fall, winter, spring
Lecture, three hours; discussion, one hour; laboratory, four hours. Prerequisite for 51A: one year of general chemistry. Prerequisites for 51B and 51C: successful completion of previous courses in the sequence.
Development of fundamental concepts relating to carbon compounds with emphasis on structural theory and the nature of chemical bonding, stereo-chemistry, reaction mechanisms, spectroscopic, physical and chemical properties of the principal classes of carbon compounds. The accompanying laboratory course provides experience in modern techniques of organic chemistry, using selected experiments to illustrate the topics introduced in the lectures.
- 71 *Quantitative Analysis* (1) fall
Lecture, two hours; laboratory, eight hours. Prerequisite: one year of general chemistry.
The course emphasizes the development of careful laboratory technique with experiments chosen to illustrate the principles of chemical and ionic equilibrium in solution. Several classical analytical experiments familiarize the student with analytical methods and equipment, with the principles and practice of experimental error analysis, and with the precision obtainable through careful work. Acid-base equilibria are treated thoroughly including the theory of titration curves, buffer solutions, multiple equilibria, and electrometric pH determinations. Finally, chromatographic methods of separation and colorimetric methods of analysis are studied and illustrated by suitably chosen laboratory work.
- 131A-131B-131C *Physical Chemistry* (1-1-1) fall, winter, spring
Lecture, three hours; discussion, one hour. Prerequisites for 131A: one year of general chemistry, one year of college physics (concurrent enrollment in *Physics* 5C is acceptable), one year of calculus. Prerequisites for 131B and 131C: successful completion of previous courses in the sequence.
- 151 *Instrumental Analysis* (1) winter
Lecture, two hours; laboratory, eight hours. Prerequisites: *Chemistry* 131A or equivalent, *Chemistry* 71 or equivalent.
- 152 *Physical Chemistry Laboratory* (1) spring
Laboratory, 10 hours. Prerequisites: *Chemistry* 151 or equivalent, concurrent or previous enrollment in *Chemistry* 131C or equivalent.
- 160 *Qualitative Organic Analysis* (1) fall
Laboratory, 10 hours. Prerequisite: *Chemistry* 51 or equivalent.
- 180 *Undergraduate Research* (1) fall, winter, spring
Prerequisites: *Chemistry* 51 or equivalent, *Chemistry* 131 or equivalent, and permission of the department.

The student wishing to engage in research for credit should arrange with a member of the staff to sponsor and supervise such work.

GRADUATE COURSES

- 201 *Physical Organic Chemistry I* (1)
- 202 *Physical Organic Chemistry II* (1)
- 205 *Synthetic Organic Chemistry* (1)
- 211 *Chemical Thermodynamics* (1)
- 213 *Chemical Kinetics* (1)
- 215 *Inorganic Chemistry I* (1)
- 216 *Inorganic Chemistry II* (1)
- 231 *Quantum Chemistry* (1)
- 232 *Statistical Mechanics* (1)
- 233 *Nuclear and Radiochemistry* (1)
- 234 *Advanced Chemical Kinetics* (1)
- 251 *Special Topics in Organic Chemistry* (1)
- 252 *Special Topics in Physical Chemistry* (1)
- 253 *Special Topics in Inorganic Chemistry* (1)
- 280 *Research: Organic Synthesis, Reaction Kinetics, Radiochemistry, Theoretical Chemistry, Physical Organic Chemistry, Inorganic Chemistry, Physical Chemistry of Macromolecules* (½ to 3)
- 290 *Seminar*

■ *Mathematics*

BERNARD R. GELBAUM, *Professor of Mathematics and Chairman of the Department*

TAKEO AKASAKI, *Assistant Professor of Mathematics and Vice Chairman of the Department*

FRANK B. CANNONITO, *Assistant Professor of Mathematics*

JAMES E. DELANY, *Assistant Professor of Mathematics*

WILLIAM F. DONOGHUE, JR., *Professor of Mathematics*

MARK FINKELSTEIN, *Assistant Professor of Mathematics*

JOHN M. GROVER, *Assistant Professor of Mathematics*

DAVID LEE HILLIKER, *Assistant Professor of Mathematics*

JOHN C. HOLLADAY, *Professor of Mathematics*

RICHARD K. JUBERG, *Associate Professor of Mathematics*

GERHARD K. KALISCH, *Professor of Mathematics*

STEPAN KARAMARDIAN, *Assistant Professor of Mathematics and in the Graduate School of Administration*

ARNOLD LEBOW, *Assistant Professor of Mathematics*

ROBERT MALTZ, *Assistant Professor of Mathematics*

MEINHARD E. MAYER, *Professor of Mathematics and Physics*

GEORGE S. MCCARTY, JR., *Associate Professor of Mathematics*

CHARLES M. NAYLOR, *Assistant Professor of Mathematics*

BERNARD RUSSO, *Assistant Professor of Mathematics*
 WILLIAM H. SMOKE, *Assistant Professor of Mathematics*
 NOBORU SUZUKI, *Associate Professor of Mathematics*
 ZENAS M. SYKES, JR., *Assistant Professor of Mathematics*
 EDWARD O. THORP, *Professor of Mathematics*
 ROBERT W. WEST, *Assistant Professor of Mathematics*
 JOEL J. WESTMAN, *Assistant Professor of Mathematics*
 ROBERT J. WHITLEY, *Associate Professor of Mathematics*
 JAMES J. YEH, *Associate Professor of Mathematics*

FRESHMAN-SOPHOMORE COURSES

1A *Introductory Mathematics* (1) fall only

An intensive course in algebra and trigonometry for those seeking admission to the calculus sequence. Prerequisite: One year high school algebra; one year high school geometry.

Note: The Department of Mathematics will discontinue the offering for credit of *Mathematics* 1A in the fall of 1968. At that time, and thereafter, students inadequately prepared in mathematics for the calculus sequence will have the opportunity of correcting the deficiency in their preparation through noncredit courses offered either in UCI Extension or some other appropriate educational agency.

2A-2B-2C *Calculus* (1-1-1) fall, winter, spring

An integrated treatment of calculus and analytic geometry in which the subjects of differentiation, integration and power series expansion of functions of a single real variable are discussed together with applications of these topics. Prerequisite: 1A or two years high school algebra; one year high school geometry; one-half year trigonometry.

3A-3B-3C *Calculus and Linear Algebra* (1-1-1) fall, winter, spring

A continuation of 2A-2B-2C in which calculus is studied for functions of several variables and in which the topics of linear algebra (vectors, matrices, linear transformations, etc.) are treated in the context of analysis and differential equations. Prerequisite: 2A-2B-2C.

4A-4B-4C *Liberal Arts Mathematics* (1-1-1) fall, winter, spring

A course designed to reveal mathematics as a science and an art.

4A — Structure, arithmetic and algebra of the real number system; elementary number theory and numeration (1) fall.

4B — Axiomatic method, application to group theory and geometry (1) winter.

4C — Sets, logic, introduction to calculus and applied mathematics (1) spring.

Prerequisite: One year high school algebra, one year high school geometry.

- 5A-5B-5C *Special Course for Social Science Students* (1-1-1) fall, winter, spring
 Covers probability theory, calculus, and elementary statistics.
 There is no prerequisite.
 5A — Finite Probability (1) fall.
 5B — Differential and Integral Calculus (1) winter.
 5C — “Continuous” Probability (1) spring.
- 6A-6B-6C *Algebra, Differential Equations, and Numerical Methods* (1-1-1) fall, winter, spring
 6A — Linear algebra, linear programming, matrix theory.
 6B — Differential equations, difference equations, approximation methods.
 6C — Numerical methods.
 Prerequisite: 5A-5B-5C.
- 10A-10B-10C *Topics in Mathematics* (1-1-1) fall, winter, spring
 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. Prerequisite: 2A-2B-2C or permission of instructor.

JUNIOR-SENIOR COURSES

- 100A-100B-100C *Ordinary and Partial Differential Equations* (1-1-1) fall, winter, spring. Prerequisite: 3A-3B-3C.
- 110A-110B-110C *Geometry and Topology* (1-1-1) fall, winter, spring
 Prerequisite: 3A-3B-3C.
- 120A-120B-120C *Algebra* (1-1-1) fall, winter, spring
 Prerequisite: 3A-3B-3C.
- 130A-130B-130C *Probability and Statistics* (1-1-1) fall, winter, spring
 Prerequisite: 3A-3B-3C.
- 131A-131B *Mathematical Statistics* (1-1) winter, spring
 Prerequisite: 130A.
- 140A-140B-140C *Advanced Calculus and Elementary Analysis* (1-1-1) fall, winter, spring
 Prerequisite: 100A-100B-100C.
- 143A-143B-143C *Applied Analysis* (1-1-1) fall, winter, spring
 Prerequisite: 3A-3B-3C.
- 150A-150B-150C *Set Theory and Mathematical Logic* (1-1-1) fall, winter, spring
 Prerequisite: 140A-140B-140C.
- 170A-170B *Statistical Methods* (1-1) fall, winter
 Prerequisite: 2A-2B-2C or 5A-5B-5C and 6A.

190A-190B-190C *Convex Sets, Convex Functions and Constrained Optimization* (1-1-1) fall, winter, spring

Prerequisite: 3A-3B-3C.

199A-199B-199C *Special Studies in Mathematics* (1-1-1) fall, winter, spring

GRADUATE COURSES

210A-210B-210C *Real Analysis* (1-1-1) fall, winter, spring

Prerequisite: 140A-140B-140C, or the equivalent.

211A-211B-211C *Topics in Real Analysis* (1-1-1) fall, winter, spring

Prerequisite: 210A-210B-210C.

220A-220B-220C *Analytic Function Theory* (1-1-1) fall, winter, spring

Prerequisite: 140A-140B-140C, or the equivalent.

221A-221B-221C *Several Complex Variables* (1-1-1) fall, winter, spring

Prerequisite: 220A-220B-220C, or the equivalent.

230A-230B-230C *Algebra* (1-1-1) fall, winter, spring

Prerequisite: 120A-120B-120C, or the equivalent.

234A-234B-234C *Topics in Algebra* (1-1-1) fall, winter, spring

Prerequisite: 230A-230B-230C.

240A-240B-240C *Differential Geometry* (1-1-1) fall, winter, spring

Prerequisite: 110A-110B-110C or 140A-140B-140C.

250A-250B-250C *Topology* (1-1-1) fall, winter, spring

Prerequisite: 110A-110B-110C, or the equivalent.

254A-254B-254C *Topics in Topology* (1-1-1) fall, winter, spring

Prerequisite: 250A-250B-250C, or the equivalent.

260A-260B-260C *Functional Analysis* (1-1-1) fall, winter, spring

Prerequisite: 210A-210B-210C; 220A-220B-220C, or the equivalent.

261A-261B-261C *Operator Theory* (1-1-1) fall, winter, spring

Prerequisite: 210A-210B-210C or 220A-220B-220C.

268A-268B-268C *Topics in Functional Analysis* (1-1-1) fall, winter, spring

Prerequisite: 260A-260B-260C.

271A-271B-271C *Stochastic Processes* (1-1-1) fall, winter, spring

Prerequisite: 210A-210B-210C, or the equivalent.

274A-274B-274C *Topics in Probability* (1-1-1) fall, winter, spring

Prerequisite: 270A-270B-270C, or the equivalent.

280A-280B-280C *Mathematical Logic* (1-1-1) fall, winter, spring

Prerequisites: Set Theory as for example in Chapter 0 of Kelley's *General Topology* (Van Nostrand 1955) and elementary familiarity with propositional and predicate logic (however, these notions will be developed fully during the course).

295A-295B-295C *Partial Differential Equations* (1-1-1) fall, winter, spring

Prerequisite: 210A-210B-210C; 220A-220B-220C, or the equivalent.

299A-299B-299C *Supervised Reading and Research* (1-1-1) fall, winter, spring

■ *Physics*

KENNETH W. FORD, *Professor of Physics and Chairman of the Department* (on leave winter and spring)

MYRON BANDER, *Assistant Professor of Physics*

RONNIE R. BURNS, *Assistant Professor of Physics*

ELIAS BURSTEIN, *Visiting Professor of Physics*

ALFONSO CAMPOLATTARO, *Acting Associate Professor of Physics*

PAUL E. CONDON, *Associate Professor of Physics*

PHILIP W. COULTER, *Assistant Professor of Physics*

SYLVAN KATZ, *Lecturer in Physics*

WILLIAM R. KROPP, *Assistant Professor of Physics*

ALEXIS A. MARAUDIN, *Professor of Physics*

MEINHARD E. MAYER, *Professor of Physics and Mathematics*

JAMES E. MERCEREAU, *Professor of Physics in Residence*

DOUGLAS L. MILLS, *Assistant Professor of Physics*

ALLEN W. PARKER, *Lecturer in Physics*

WILLIAM H. PARKER, *Assistant Professor of Physics*

JOHN R. PELLAM, *Professor of Physics*

FREDERICK REINES, *Professor of Physics and Dean of Physical Sciences*

NATHAN RYNN, *Professor of Electrical Engineering and Physics*

JONAS SCHULTZ, *Associate Professor of Physics*

GORDON L. SHAW, *Associate Professor of Physics*

THOMAS E. STARK, *Assistant Professor of Physics*

W. KEITH R. WATSON, *Lecturer in Physics*

FRESHMAN-SOPHOMORE COURSES

Physics 3 is a one-year course suitable for pre-medical students, students majoring in biological sciences, and non-science majors. It surveys most of the important branches of physics with strong orientation toward modern physics. Laboratory work accompanies 3A and 3B.

Physics 5 is an intensive five-quarter course for physics, chemistry and engineering students and other students interested in a careful quantitative approach to the subject. Laboratory work accompanies 5B, 5C, 5D, and 5E.

- 3A *Basic Physics I* (1) fall
Survey of particles and nature; studies of motion; heat phenomena. Facility with algebra and elementary trigonometry is assumed. Concurrent enrollment in *Mathematics 1A* is recommended for students deficient in mathematics.
- 3B *Basic Physics II* (1) winter
Electricity and magnetism; radiation and waves; optics.
Prerequisite: *Physics 3A*.
- 3C *Basic Physics III* (1) spring
Twentieth century physics: relativity; quantum ideas; atomic and nuclear physics. Prerequisite: *Physics 3B*.
- 5A *Fundamental Physics I* (1) winter
Survey of particles and matter; Newtonian mechanics. Facility in calculus is assumed. Corequisite: *Mathematics 2B*.
- 5B *Fundamental Physics II* (1) spring
Relativity; electricity and magnetism. Prerequisite: *Physics 5A*.
Corequisite: *Mathematics 2C*.
- 5C *Fundamental Physics III* (1) fall
Electromagnetism; wave phenomena; optics. Prerequisites: *Mathematics 2ABC*, *Physics 5B*.
- 5D *Fundamental Physics IV* (1) winter
Quantum theory; atoms and nuclei. Prerequisite: *Mathematics 2ABC*, *Physics 5C*. Corequisite: *Mathematics 3*.
- 5E *Fundamental Physics V* (1) spring
Thermodynamics and statistical physics. Prerequisites: *Mathematics 2ABC*, *Physics 5C*. Corequisite: *Mathematics 3*.

JUNIOR-SENIOR COURSES

Courses numbered between 100 and 109 are second-level courses primarily for non-physics majors. Each explores a limited area of physics in depth, with emphasis on concepts and methods. Calculus is not required. No laboratory.

Courses numbered above 110 are for physics majors and other qualified students. Those numbered between 110 and 129 emphasize the mathematical and theoretical structures that have unified our understanding of nature. Those numbered between 130 and 149 emphasize particular domains of the structure of matter. Laboratory work is assigned to separate courses, the 151 series, each quarter devoted to a different area of physics.

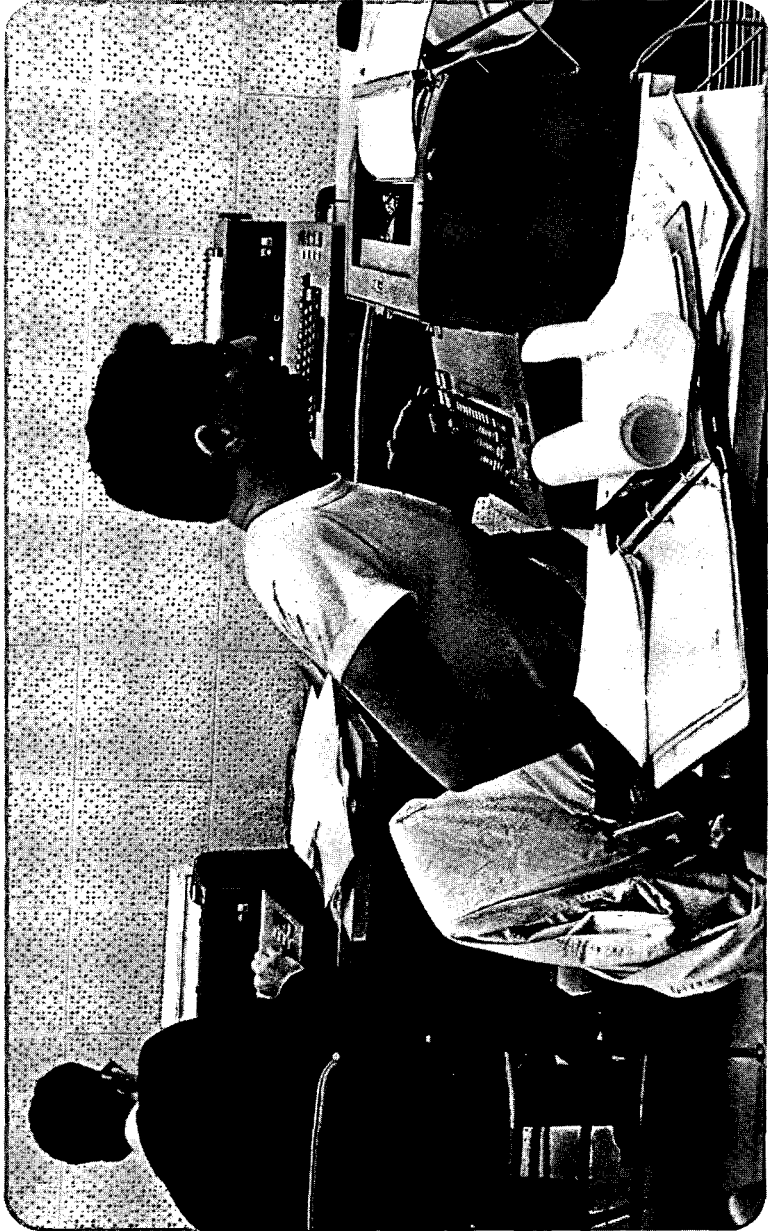
- 101 *Atomic Phenomena* (1) fall
Development of the quantum theory; atomic structure and atomic reactions; interpretation of spectra. Prerequisite: *Physics 3ABC*.
- 102 *Nuclear Phenomena* (1) winter

- 103 *Contemporary Physics* (1) spring. Not offered in 1967-68.
- 111 *Classical Mechanics* (1) fall
Prerequisites: *Physics* 5A, 5B. Corequisite: *Mathematics* 3.
- 112 *Electromagnetic Theory* (1) winter
Prerequisite: *Physics* 5C. Corequisite: *Mathematics* 3.
- 113 *Optics* (1) spring
Prerequisite: *Physics* 112.
- 114 *Quantum Theory* (1) fall
Prerequisites: *Physics* 5D, *Mathematics* 3ABC.
- 115 *Statistical Mechanics* (1) winter
Prerequisites: *Physics* 5E, *Physics* 111.
- 116 *Thermodynamics* (1) spring
Prerequisite: *Physics* 115.
- 131 *Atomic Physics* (1) fall
Prerequisite: *Physics* 5E.
- 132 *Nuclear Physics* (1) winter
Prerequisite: *Physics* 131.
- 133 *Solid State Physics* (1) spring
Prerequisite: *Physics* 131.
- 134 *Astrophysics* (1). Not offered in 1967-68.
- 135 *Plasma Physics* (1). Not offered in 1967-68.
- 151 *Advanced Laboratory I* (1) fall
Prerequisite: *Physics* 5E or permission of instructor.
- 152 *Advanced Laboratory II* (1) winter
Prerequisite: *Physics* 5E or permission of instructor.
- 153 *Advanced Laboratory III* (1) spring
Prerequisite: *Physics* 5E or permission of instructor.
- 154 *Advanced Laboratory IV* (1). Not offered in 1967-68.
- 195 *Undergraduate Research* (1)
Open to seniors and occasionally to juniors with permission of the department.
- 199 *Readings on Special Topics* (1)
With permission of the department.

GRADUATE COURSES

- 211A-211B *Classical Mechanics* (1-1) winter, spring
- 212A-212B-212C *Mathematical Physics* (1-1-1) fall, winter, spring
- 213A-213B-213C *Electromagnetic Theory* (1-1-1) fall, winter, spring
- 214A-214B *Statistical Physics* (1-1) winter, spring
- 215A-215B-215C *Quantum Mechanics* (1-1-1) fall, winter, spring
- 216 *Special Relativity* (1) fall
- 221A-221B-221C *Solid State Theory* (1-1-1) fall, winter, spring

- 222A *Nuclear Theory* (1) winter
- 222B *Nuclear Theory* (1). Not offered in 1967-68.
- 223 *Elementary Particle Physics* (1) spring
- 224 *Atomic and Molecular Physics*. Not offered in 1967-68.
- 225A-225B *Plasma Physics* (1-1) fall, winter
- 232 *Applications of Group Theory*. Not offered in 1967-68.
- 235A-235B *Advanced Quantum Mechanics* (1-1) winter, spring
Prerequisite: *Physics* 215 ABC.
- 235C *Advanced Quantum Mechanics*. Not offered in 1967-68.
- 260-279 *Special Topics in Physics* (1 each)
These courses are designed to acquaint students with the basic concepts and methods underlying current research activity in selected branches of physics.
- 260 (formerly 260A) *Topics in Group Theory* (1)
Not offered in 1967-68.
- 261 (formerly 260B) *Topics in Plasmas* (1)
Not offered in 1967-68.
- 262 (formerly 260C) *Topics in Modern Astrophysics* (1)
Not offered in 1967-68.
- 263 *Topics in Modern Optics* (1) fall
- 264 *Dispersion Relations* (1) fall
- 265 *General Relativity* (1) winter
Other topics will be added later.
- 295 *Experimental Research* (1-3)
With the approval of a faculty member who will guide his work, 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* (1-3)
With the approval of a faculty member who will guide his work, a student may pursue a research program in theoretical physics. Typical areas include: solid state physics, low temperature physics, plasma physics, elementary particle physics, and general relativity.
- 299 *Reading on Special Topics* (1)
With special permission 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.



Graduate and undergraduate education in the Division of Social Sciences at UCI involve participation in an educational revolution. The program, faculty, and students differ substantially from conventional counterparts elsewhere. The specific details of those differences are indicated in this section of the catalog. The details are elaborations of a commitment on the part of faculty and students to a modern social science.

The educational programs have a double emphasis: First, they are built upon systematic empirical observation and quantitative analysis of human behavior. 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 anthropology, economics, geography, political science, psychology, and sociology.

Second, important new problems confront society; and social scientists have a responsibility to assist in the development of solutions to these problems. A rapidly changing technology, the pathologies of a population explosion and urban concentration, the thrust of once underdeveloped societies, the creeping mastery of disease, the strains of race relations, the tempestuous marriage of men and machines in problem solving, endemic crises in international affairs, lagging or explosive economic growth, political instability, and explorations of space provide social scientists with an extraordinary list of unsolved problems and opportunities.

A modern program in the social sciences develops skills in the use of social science techniques and knowledge in order to confront these and other contemporary problems. In a world in which knowledge of human behavior is increasing rapidly, training in the social sciences must emphasize the basic analytical tools and the processes by which knowledge is gained. Moreover, in an age in which social problems and our understanding of man violate traditional academic boundaries, training in the social sciences must emphasize the exploration of boundaries among the social sciences and between the social sciences and other disciplines.

THE DIVISION OF SOCIAL SCIENCES

JAMES G. MARCH, *Dean*

2

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, laboratories, research aids, reading lists, discussion groups, and examinations. The administration provides routine housekeeping services. The faculty provides support, advice, and occasional wisdom. Students, individually and collectively, make major 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 the faculty to define a modern approach to social science. They are sanctified neither by tradition, nor by high authority, nor by pride. From time to time the faculty expects to propose modifications in the programs. It welcomes similar proposals from students, both to meet the individual educational needs of individual students and to improve the quality and relevance of the general program.

Graduate Programs

The Division offers instruction leading to the Ph.D. degree. The degree programs are restricted to full-time students and emphasize preparation for research and academic careers in the disciplines involved.

In recent years it has become increasingly clear that the traditional boundaries among anthropology, economics, geography, political science, psychology and sociology are not always the most convenient boundaries for the research and teaching undertaken by social scientists. For instance, those social scientists focusing on such problems as organizations, choice, conflict, urban affairs, or public policy analysis are likely to find such boundaries irrelevant. This problem has long been signaled 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 titles endlessly. Therefore, while Ph.D. programs in several of the individual disciplines will be introduced within the coming year, the Division chooses to initiate its graduate training with a program leading to the Ph.D. in Social Science. This program will not pretend that there is a single fixed body of knowledge that all social scientists must master, nor will it serve as a cover for any particular methodological orthodoxy. Rather, it is designed to allow each graduate student to work out for himself, in close conjunction with at least three members of the faculty, a course of study resulting in the mastery of a coherent body of empirical

and theoretical knowledge which can serve as the basis for further creative and fruitful teaching and research. Depending on the student's interests, such a program may range quite widely across disciplines, or resemble the traditional one discipline plus outside field type of arrangement found at most universities.

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 normally be devoted to dissertation research and writing. In some instances, of course, pre-dissertation work will require more than two years, and especially 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. For the mathematical requirements, see the section on "Mathematics and Social Science" below.

Artificial administrative barriers will not be created between the social science and more particular degree programs. Transfers from social science to the individual disciplines and vice versa will be encouraged when they are appropriate and convenient to the student's research and teaching plans.

Applications for admission to the prospective Ph.D. programs in economics, psychology, political science and sociology are also welcomed. None of these programs anticipate elaborate field and course requirements of the sort frequently encountered so that detailed statements of requirements are unnecessary. Each will involve preparation in the basic areas of the individual discipline to be demonstrated by written and oral examinations normally during the first and second years of study. Each will involve the preparation of a dissertation under the direction of several members of the faculty. All of the disciplinary programs will encourage whatever degree of interdisciplinary work is compatible with a professional level of accomplishment within the basic discipline.

Undergraduate Programs

The Division of Social Sciences offers undergraduate degree programs in anthropology, economics, geography, political science, psychology, social science, and sociology. The programs are designed to provide terminal training in the social sciences; preparation for graduate work in one of the disciplines; preparation for professional training in administration, education, law, planning or social work; or preparation for elementary, secondary,

and junior college teaching (in conjunction with the program in Teacher Education).

The undergraduate program in the Division is designed to help the student achieve six basic goals:

1. An understanding of the structure, limits, and uses of major techniques of analysis in the study of human behavior. For example, the student should be able to use intelligently basic theories of choice, exchange, adaptation, diffusion, and social structure.
2. Familiarity with the mathematical, computational, and statistical tools underlying modern social science. The student should be able to deal effectively with the fundamentals of calculus, difference and differential equations, linear algebra, computer programming, and statistics. See the section on "Mathematics and Social Science" below.
3. A basic knowledge of three different social science disciplines, including the discipline offered as the field of concentration. The candidate may choose any three of the six basic disciplines offered by the Division.
4. An extended knowledge of the institutions, data, concepts, methods, and analytic techniques of the discipline in which the degree is sought. The candidate should have a thorough grounding in the fundamentals of the discipline.
5. The ability to use knowledge in the field of concentration and the social sciences generally, to analyze a significant policy problem involving human behavior and to propose and justify a detailed approach to a solution.
6. The ability to participate in significant research in the discipline of concentration and to evaluate published research.

Students are assumed to have the ability to write with lucidity and grace and to read rapidly and with comprehension. Students who lack these abilities should plan (and will be required) to take the formal or informal instruction necessary to overcome these handicaps.

The Four-Year Program

The normal four-year undergraduate program follows a regular sequence in each of the social science disciplines. In each year the student has certain specific requirements he is expected to meet in the social sciences. During the freshman year, he is expected to acquire the key analytic tools of the social sciences and to start his collegiate study of mathematics. During the sophomore year, he continues mathematics, learns the basic content of three specific disciplines within the Division, and studies the experimental, field, and data analysis methods of social science.

During the junior year, he learns the more advanced material in the field of concentration and statistics. During the senior

year, he completes a substantial project in his major field. The program is supplemented each year by elective courses and other activities designed to satisfy outside requirements and the individual needs of the student.

The Division specifies its requirements in the form of knowledge gained rather than specific courses taken, and encourages students to satisfy the requirements by examination rather than necessarily through formal attendance in courses. Some students may find it helpful, however, to consider the following typical course program. The program is written for a student seeking a degree in psychology but can easily be adapted to others.

	FALL QUARTER	WINTER QUARTER	SPRING QUARTER
FRESHMAN	Social Science 1A	Social Science 1B	Social Science 1C
	Mathematics 5A	Mathematics 5B	Mathematics 5C
	Breadth requirement*	Breadth requirement*	Breadth requirement*
	Breadth requirement*	Breadth requirement*	Breadth requirement*
SOPHOMORE	Psychology 1**	Political Science 1**	Sociology 1**
	Mathematics 6A	Mathematics 6B	Mathematics 6C
	Information and Communication 1	Elective	Elective
	Elective	Elective	
JUNIOR	Psychology 100A***	Psychology 100B***	Psychology 100C***
	Mathematics 130A	Mathematics 130B	Mathematics 130C
	Elective	Elective	Elective
	Elective	Elective	Elective
SENIOR	Psychology 190A***	Psychology 190B***	Psychology 190C***
	Elective	Elective	Elective
	Elective	Elective	Elective
	Elective	Elective	Elective

*For a discussion of the general breadth requirements (the 6-3-3 requirements) see page 2. The normal program for majors in the Division satisfies the requirement of six courses in the Division of Physical Sciences through the mathematics requirement. Students must enroll in at least three courses in each of two of the three other divisions (i.e., Biological Sciences, Fine Arts, Humanities). These are minimal requirements; students are generally encouraged to take additional advanced work outside the major field.

**A student normally takes three of the six introductory courses (*Anthropology 1, Economics 1, Geography 1, Political Science 1, Psychology 1, Sociology 1*), including the course in his degree discipline.

****Psychology 100A-100B-100C* and *190A-190B-190C* would be taken by a psychology major. *Geography 100A-100B-100C* and *190A-190B-190C* would be taken by a geography major, etc.

Transfer Students

Freshmen and Sophomores. Students transferring to UCI as freshmen or sophomores will fulfill the regular requirements of the four-year program either at UCI or through transfer of credit for comparable work elsewhere.

Juniors. Junior transfers with good records at other accredited colleges and universities will normally be presumed to have satisfied the freshman and sophomore requirements for the social science curriculum. Students anticipating transfer to UCI in their junior year, however, should attempt to plan their programs so as to anticipate the special requirements of the program. 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.

Normally, the typical two-year program is simply the last two years of the regular four-year program, except that students who have not satisfied the freshman and sophomore mathematics requirements in the Division must do so before graduation (see the section on "Mathematics and Social Science").

Juniors planning to transfer into the Division at the winter or spring quarter will often find that course schedules make it difficult or impossible to complete the program in less than seven or eight quarters of work. Such students should consult with the Division as early as possible to determine whether the program they intend to pursue will be feasible.

Seniors. Students wishing to graduate with a degree in the Division by transferring in their senior year should plan their work carefully to ensure that the divisional requirements can be met in one year of residence. In general, differences between the program at UCI and programs elsewhere make such transfers difficult. No student will be admitted to senior status in the Division until he has passed the Junior Comprehensive Examination in his discipline and has completed the mathematical prerequisites for *Mathematics* 130A-C.

Academic Advisors

Each student majoring in a discipline within the Division is assigned to a faculty advisor on entry. Subsequent changes in advisors are made by the Dean on request of either the student or the advisor. The student is responsible for his own program and for meeting the requirements for graduation. The advisor provides advice in broad educational planning, help in overcoming bureaucratic impediments to education, and access to the faculty.

Special Programs

Pre-graduate Training. Students planning to pursue graduate work in the social sciences enroll in the regular social science program in one of the disciplines. In addition, they should supplement their program by anticipating language requirements at major graduate schools and by intensive work in areas outside the Division that are of special relevance to their intended graduate work.

Information and Communication Science. A special interdivisional program in information and communication science combines the regular undergraduate work in one of the social science disciplines with additional junior-senior work in computer science, mathematics, and engineering. See page 00.

Pre-law. Students interested in entering law school upon completion of their baccalaureate can major in any of the social sciences. Specific requirements imposed by specific law schools can be met through electives.

Teacher Training. Students interested in preparing for elementary school teaching or for secondary and junior college teaching in the social sciences follow the regular program for majors in the social sciences. They complete their program by electing courses that will satisfy the requirements for teacher certification.

Administration. Undergraduate degree programs in business and public administration are not offered at UCI. Students preparing for a career in business or government can major in one of the social science disciplines. Students particularly interested in business administration are usually advised to major in economics. Students interested in public administration are usually advised to major in economics or political science. In addition, the Division offers, in conjunction with the Graduate School of Administration, a special five-year program for select students leading to both a baccalaureate in one of the social sciences and a Master's degree in administration. Application for admission to the program is made in the spring of the junior year.

Mathematics and Social Science

Competence in basic mathematics is a necessary skill for a modern social scientist. Each candidate for a degree in the Division of Social Sciences is expected to have knowledge of probability theory, matrix algebra, calculus, difference and differential equations, mathematical statistics, and computing. Normally, this knowledge is gained by pursuing a program of nine courses in mathematics, statistics, computing, and mathematical social science. The first seven courses normally are:

Information and Communication Sciences 1: Digital Computing

Mathematics 5A: Finite Probability

Mathematics 5B: Differential and Integral Calculus

Mathematics 5C: Continuous Probability

Mathematics 6A: Linear Algebra

Mathematics 6B: Differential Equations

Mathematics 6C: Numerical Methods

To complete the requirement, a student normally chooses two courses from an approved list of courses in mathematics, computing, or mathematical social science.

Students who wish to do so may substitute *Mathematics 2A-2B-2C* and *3A-3B-3C* for *Mathematics 5A-5B-5C* and *6A-6B-6C*. However, they will then be expected to complete at least two quarters of work in probability and statistics.

Students entering as juniors (or graduate students) without previous college mathematics are enrolled in *Mathematics 5A-5B-5C* and *Information and Communication Science 1* during their first year at UCI. Such students enroll in *Mathematics 6A-6B-6C* and the two additional courses during their second year. An undergraduate transfer student without previous college mathematics will normally need two regular school years of work at UCI to complete the graduation requirements of the Division. A graduate student without college mathematics should anticipate that his program will require additional time to complete.

All students are expected to have competence in intermediate algebra on entrance. Competence can be demonstrated by completion of a one-year course in intermediate algebra in high school, junior college, or University Extension; by a score of 600 on the quantitative part of the College Boards; or by passing an examination in algebra offered in September of each year. Students who wish to prepare themselves for the special examination on an individual basis can obtain counseling on self-instruction programs from the Division of Social Sciences.

Nonmajors

Students from other divisions or schools are encouraged to take courses within the Division of Social Sciences. Non-majors may be particularly interested in the following introductory courses:

Social Science 1A-1B-1C: Introduction to Analysis

Social Science 10, 11, 12, 13, 14, 15: The American Society

Anthropology 1: Introduction to Anthropology

Economics 1: Introduction to Economics

Geography 1: Introduction to Geography

Political Science 1: Introduction to Political Science

Psychology 1: Introduction to Psychology

Sociology 1: Introduction to Sociology

Each quarter some of the special topics courses are open to students without previous work in social science. These courses are described generally below. The individual topics for each quarter are announced at the time of pre-registration.

Courses of Study

The Division of Social Sciences has no great confidence in a college education that consists solely in regular attendance and grades in a specified list of courses, each lasting some multiple of one quarter. As a result, "courses" in the Division do not always resemble the conventional university course either in content or in format. Enrollment in a course is simply a commitment on the part of a student that he will educate himself (with such faculty assistance as is required).

When the education is complete, the course is complete. Thus, a student may obtain credit through examination for any course in the Division for which he is otherwise eligible.

The Division schedules five types of courses:

General Introductory Courses. These courses (*Social Science 1A-1B-1C* and *Social Science 10, 11, 12, 13, 14, 15*) are intended to introduce any student to the analytical and descriptive material of social science. They are relatively conventional in format.

Core Courses. In each discipline in which a degree is offered within the Division (anthropology, economics, geography, political science, psychology, social science, sociology) a cluster of four core courses is listed. The educational activities involved in these courses include self-instructional activities (including reading), lectures, seminars, and individual discussions with faculty members and other students. The educational objectives are to give the student a knowledge of the major concepts, techniques, and results of the discipline. A student who is a candidate for a degree in the Division must pass a comprehensive examination covering the core material in his discipline before starting his senior year. A student who is a candidate for a degree in another division is also encouraged to participate in the core courses. These courses are numbered 1, 100A, 100B, and 100C in each discipline.

Special Topics Courses. To supplement the core disciplinary courses and to provide both majors and nonmajors with the experience of pursuing a subject in depth, the Division offers a number of "special topics" courses. The specific topics to be covered in any quarter are announced at the time of pre-registration.

Recent special topics courses have included such topics as "Cognitive Structure and Personality," "Regional Planning," "Social Bases of Politics," "Racial and Ethnic Differences in American Society." Generally speaking, special topics courses are not repeated each year. Rather, the student samples from those courses available in a particular quarter. In each quarter some special topics courses are open to students without previous work in the discipline. These courses are numbered 80 or 180 in each discipline.

Individual Study Courses. 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 199 in each discipline.

Project Courses. Students who have the knowledge gained in the core disciplinary courses and have passed the junior comprehensive examination in the field may enroll in a senior project seminar within which they complete a substantial paper. The course is simply an administrative hook on which to hang the paper and the seminar. These courses are numbered 190A-190B-190C in each discipline. Any student may, with faculty approval, undertake a project as an individual study (199) course.

■ Anthropology

JOHN P. BOYD, *Assistant Professor of Anthropology and Information and Communication Sciences*

JEAN LAVE, *Acting Assistant Professor of Anthropology*

DUANE METZGER, *Associate Professor of Anthropology*

VOLNEY STEFFLRE, *Assistant Professor of Anthropology and Psychology*

Anthropology provides an historical and comparative framework for the study of the cultural aspects of man and society. This includes an understanding of the basic concepts, techniques, and data of ethnology, social anthropology, and linguistics. Emphasis is placed on the analysis and comparison of social and cultural systems and their various aspects: norm, status, and role; structure and function; polity, economy, ecology, and kinship; types of society; social change; values, knowledge, art, and religion; cultural differentiation and cultural history; language.

UNDERGRADUATE COURSES

- 1 *Introduction to Anthropology* (1) winter
 100A-100B-100C *Advanced Anthropological Analysis I-II-III* (1-1-1)
 fall, winter, spring
 180 *Special Topics* (1) fall, winter, spring
 May be taken more than once.
 190A-190B-190C *Senior Project I-II-III* (1-1-1) fall, winter, spring
 Prerequisite: Junior Comprehensive Examination
 199 *Individual Study* (1) fall, winter, spring
 Prerequisite: Permission of instructor. May be taken more
 than once.

GRADUATE COURSES

- 200A-200B-200C *Proseminar in Anthropology* (1-1-1) fall, winter,
 spring
 280 *Special Topics* (1) fall, winter, spring
 299 *Individual Research* (1) fall, winter, spring

■ *Economics*

DURAN BELL, *Assistant Professor of Economics*
 SHEEN T. KASSOUF, *Assistant Professor of Economics*
 CHARLES LAVE, *Acting Assistant Professor of Economics*
 KARL B. RADOV, *Lecturer in Economics*
 RICHARD E. WAGNER, *Assistant Professor of Economics*

Economics is the study of resource allocation by individuals, organizations, and nations. Descriptive economics includes the study of the manner in which these decisions are made and of the interactions among them. Normative economics considers how decisions should be made in order to achieve certain objectives. Some of the major topics considered are consumer behavior, business behavior, pricing, markets and market equilibrium, problems of optimization, business fluctuations, national income, economic growth and development, fiscal and monetary policy, inflation, welfare economics, economics of the public sector, industrial organization, labor economics, forecasting, and the quantitative analysis of economic data.

UNDERGRADUATE COURSES

- 1 *Introduction to Economics* (1) fall
 100A-100B-100C *Advanced Economic Analysis I-II-III* (1-1-1) fall,
 winter, spring
 180 *Special Topics* (1) fall, winter, spring
 May be taken more than once.
 190A-190B-190C *Senior Project I-II-III* (1-1-1) fall, winter, spring
 Prerequisite: Junior Comprehensive Examination

- 199 *Individual Study* (1) fall, winter, spring
Prerequisite: Permission of instructor. May be taken more than once.

GRADUATE COURSES

- 200A-200B-200C *Proseminar in Economics* (1-1-1) fall, winter, spring
280 *Special Topics* (1) fall, winter, spring
299 *Individual Research* (1) fall, winter, spring

■ *Geography*

DOUGLAS M. AMEDEO, *Assistant Professor of Geography*

GORDON J. FIELDING, *Assistant Professor of Geography and Administration*

Geography is the study of areas. The principal focus is the locations and arrangements of phenomena on the surface of the earth and the processes that generate distributions. Traditionally both physical and human processes contributing to place differentiation are studied. At Irvine emphasis is upon the human processes and the distributions they generate. Students of geography are concerned with topics such as the arrangements and dispersion of urban places, industrial and location theory, and the differences which exist from place to place as the result of political, social, and psychological behavior. The structural characteristics of transportation networks and patterns of movement are also considered. Special attention is also given to the integration of techniques and knowledge of geography with other social sciences in the solving of major social problems.

UNDERGRADUATE COURSES

- 1 *Introduction to Geography* (1) spring
100A-100B-100C *Advanced Geographical Analysis I-II-III* (1-1-1) fall, winter, spring
180 *Special Topics* (1) fall, winter, spring
May be taken more than once.
190A-190B-190C *Senior Project I-II-III* (1-1-1) fall, winter, spring
Prerequisite: Junior Comprehensive Examination
199 *Individual Study* (1) fall, winter, spring
Prerequisite: Permission of instructor.
May be taken more than once.

GRADUATE COURSES

- 200A-200B-200C *Proseminar in Geography* (1-1-1) fall, winter, spring
280 *Special Topics* (1) fall, winter, spring
299 *Individual Research* (1) fall, winter, spring

■ Political Science

CHARLES F. CNUDDÉ, *Assistant Professor of Political Science*

LYMAN DRAKE, *Acting Assistant Professor of Political Science*

LEWIS A. FROMAN, JR., *Associate Professor of Political Science*

MARTIN A. LEVIN, *Acting Assistant Professor of Political Science*

DEANE E. NEUBAUER, *Assistant Professor of Political Science*

MARTIN M. SHAPIRO, *Professor of Political Science*

RICHARD C. SNYDER, *Professor of Political Science and Administration*

Political Science involves study of the problems of politics and the institutions which have evolved in response to those problems. The primary focus is (1) on the behavior of major participants in the political process: voters, parties, political leaders, legislatures, courts, public opinion, pressure groups, administrators; and (2) on the way in which politics resolves conflict, organizes social action, and mediates social change. The interactions between politics and the economic systems (political economy) and between politics and the social system (political sociology) are emphasized. Empirical studies of political behavior are used as the basis for both analysis of political institutions and for the investigation of current political problems.

UNDERGRADUATE COURSES

- 1 *Introduction to Political Science* (1) winter
- 100A-100B-100C *Advanced Political Analysis I-II-III* (1-1-1) fall, winter, spring
- 180 *Special Topics* (1) fall, winter, spring
May be taken more than once.
- 190A-190B-190C *Senior Project I-II-III* (1-1-1) fall, winter, spring
Prerequisite: Junior Comprehensive Examination
- 199 *Individual Study* (1) fall, winter, spring
Prerequisite: Permission of instructor.
May be taken more than once.

GRADUATE COURSES

- 200A-200B-200C *Proseminar in Political Science* (1-1-1) fall, winter, spring
- 280 *Special Topics* (1) fall, winter, spring
- 299 *Individual Research* (1) fall, winter, spring

■ *Psychology*

ALBERT J. AHUMADA, *Assistant Professor of Psychology*

ARNOLD BINDER, *Professor of Psychology*

ISABEL M. BIRNBAUM, *Assistant Professor of Psychology*

MYRON L. BRAUNSTEIN, *Associate Professor of Psychology*

DOUGLAS K. CHALMERS, *Assistant Professor of Psychology*

MICHAEL COLE, *Associate Professor of Psychology*

JULIAN FELDMAN, *Professor of Psychology and Information and Communication Science.*

ALAN E. GROSS, *Assistant Professor of Psychology and Sociology*

JOE TRUMAN HART, *Assistant Professor of Psychology*

JAMES G. MARCH, *Professor of Psychology and Sociology and Dean of the Social Sciences*

ALAN J. MILLER, *Assistant Professor of Psychology*

JOHN WALLACE, *Associate Professor of Psychology and Administration*

Psychology is the study of behavior, including psychophysics, sensation, perception, learning, decision making, problem solving, concept formation, verbal behavior, individual development, motivation, personality, abnormal behavior, emotion, language, influence, attitudes, and social behavior. Particular emphasis is placed on quantitative analyses of behavior, and students are encouraged to explore the interdisciplinary boundaries of psychology by taking courses in such fields as engineering, psychobiology, and sociology. Student projects include experimental studies, investigation of mathematical and computer models of behavior, and quantitative analysis of psychological data.

UNDERGRADUATE COURSES

1 *Introduction to Psychology* (1) fall

2 *Experimental Psychology* (1) winter

100A-100B-100C *Advanced Psychology I-II-III* (1-1-1) fall, winter, spring

180 *Special Topics* (1) fall, winter, spring

May be taken more than once.

190A-190B-190C *Senior Project I-II-III* (1-1-1) fall, winter, spring

Prerequisite: Junior Comprehensive Examination

199 *Individual Study* (1) fall, winter, spring

Prerequisite: Permission of instructor.

May be taken more than once.

GRADUATE COURSES

- 200A-200B-200C *Proseminar in Psychology* (1-1-1) fall, winter, spring
 280 *Special Topics* (1) fall, winter, spring
 299 *Individual Research* (1) fall, winter, spring

Sociology

INGEBORG P. BELL, *Assistant Professor of Sociology*

BARBARA K. FOLEY, *Assistant Professor of Sociology*

JEROME KIRK, *Assistant Professor of Sociology*

DAVID N. SUDNOW, *Assistant Professor of Sociology*

Sociology includes the study of the basic elements of sociological analysis—social interaction, values, roles, social structure; the fundamental human groupings of primary relationships (e.g., the family), organizations (e.g., bureaucracies), communities (e.g., megalopolis), institutions (e.g., religion), masses (e.g., mobs), and stratified groups (e.g., social classes); and the basic problems of social change, social control, and social tension. Sociological analysis utilizes both sociological theory and the data obtained by such empirical techniques as sample surveys, laboratory experiments, social statistics, and field observations. Students are encouraged to engage in projects involving the application of sociology to other areas—for example, sociological history, sociology of the arts, sociology of science.

UNDERGRADUATE COURSES

- 1 *Introduction to Sociology* (1) spring
 100A-100B-100C *Advanced Sociological Analysis I-II-III* (1-1-1) fall, winter, spring
 180 *Special Topics* (1) fall, winter, spring
 May be taken more than once.
 190A-190B-190C *Senior Project I-II-III* (1-1-1) fall, winter, spring
 Prerequisite: Junior Comprehensive Examination
 199 *Individual Study* (1) fall, winter, spring
 Prerequisite: Permission of instructor.
 May be taken more than once.

GRADUATE COURSES

- 200A-200B-200C *Proseminar in Sociology* (1-1-1) fall, winter, spring
 280 *Special Topics* (1) fall, winter, spring
 299 *Individual Research* (1) fall, winter, spring

Social Science

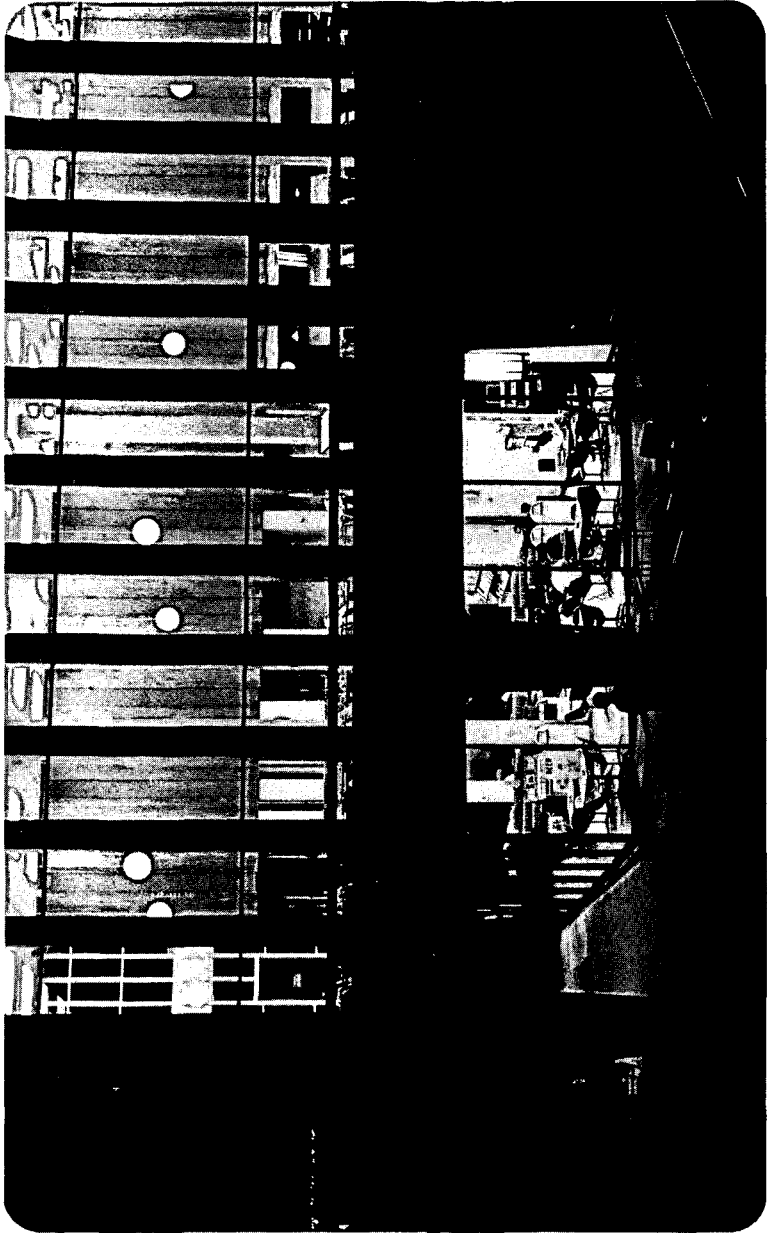
The study of social science—as distinct from the study of the individual disciplines of anthropology, economics, geography, political science, psychology, and sociology—is the study of phenomena or techniques of analysis that are not easily contained within one of the conventional disciplines. Enrollment in upper division and graduate courses is limited to students with strong interests in a well-defined interdisciplinary field.

UNDERGRADUATE COURSES

- 1A-1B-1C *Introduction to Analysis I-II-III* (1-1-1) fall, winter, spring
 10 *The American Society* (1) fall, winter, spring
 May be taken more than once.
- 100A-100B-100C *Advanced Analysis I-II-III* (1-1-1) fall, winter, spring
 180 *Special Topics* (1) fall, winter, spring
 May be taken more than once.
- 190A-190B-190C *Senior Project I-II-III* (1-1-1) fall, winter, spring
 Prerequisite: Junior Comprehensive Examination
- 199 *Individual Study* (1) fall, winter, spring
 Prerequisite: Permission of instructor.
 May be taken more than once.

GRADUATE COURSES

- 200A-200B-200C *Proseminar in Social Science* (1-1-1) fall, winter, spring
- 280 *Special Topics* (1) fall, winter, spring
- 299 *Individual Research* (1) fall, winter, spring



The School of Engineering offers junior-senior 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. Programs at all levels emphasize the fundamentals underlying engineering so as to make easy future maintenance of engineering competence by either formal or informal study. Thus programs of study in the School of Engineering will equip UCI graduates with adequate intellectual tools to provide for the continued updating of their technological knowledge in the presence of a very rapidly expanding technology and the changing needs of society.

At the undergraduate level, the program now being offered is that emphasizing electrical engineering. In the future several other programs will be added in fields such as civil, mechanical, chemical, and materials engineering. While much of the curriculum will be common to all fields of engineering, opportunity will be afforded students to do elective work in the areas of their special interest. Thus, in the junior and senior years students will be able to elect courses in addition to those required. It is expected that each student will devote approximately 40 per cent of his time over the four years to the scientific and mathematical backgrounds pertaining to the particular engineering discipline under study; the purpose of this intense study of the sciences and mathematics is to make sure that graduates are extremely well grounded in the laws and constraints of logic and nature. Another 20 per cent of the program will be assigned to the study of the arts, humanities, and the social sciences. The remaining 40 per cent will comprise engineering subjects.

At the graduate level, programs of study become less and less rigidly structured the farther one goes. The M.S. program requires the completion of nine courses, 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 than at the M.S. level.

THE SCHOOL OF ENGINEERING

ROBERT M. SAUNDERS, *Dean*

2

No courses are required; rather students must demonstrate various competences as they progress toward the completion of their doctoral programs.

Undergraduate Programs

ADMISSION

High school students wishing to begin their engineering programs at the University of California, Irvine, should seek admission to the College of Arts, Letters, and Sciences, whose admission requirements are stated on page 00. Upon registering in the College of Arts, Letters, and Science, students will be assigned engineering advisors who will assist them in developing a satisfactory program of study and provide the requisite advice during their freshman and sophomore years.

Junior students are admitted to the School of Engineering upon completion of a freshman-sophomore program either in the College of Arts, Letters, and Science at Irvine or at another college. Students seeking admission to the School of Engineering must satisfy the University requirements for admission to advanced standing, and must have completed the specific requirements for the junior courses to be undertaken in the School of Engineering. This means completion of the equivalent of UCI *Physics 5E* and *Mathematics 3C*.

PROGRAMS OF STUDY

Since Irvine freshmen and sophomores will be enrolled in the College of Arts, Letters, and Science, they will be expected to follow a program in one of the divisions of the College. Students should feel free to follow any program they feel is meaningful to them, but they should be sure to complete the requisite physics and mathematics for admission to junior courses in engineering. Normally a student will wish to complete the secondary science requirement (biology or chemistry), the digital computing course, and the nine courses required in fine arts, humanities, and social sciences in the freshman and sophomore years. It would be well for students expecting to proceed to graduate study for the M.S. or Ph.D. degrees to elect a foreign language, preferably German or Russian, in the freshman or sophomore years. Students in junior colleges may wish to elect engineering courses in the freshman and sophomore years; such courses while not prerequisite to courses in the School of Engineering will be accepted in satisfaction of the overall engineering elective requirements of the School. *Since UCI elects not to offer freshman and sophomore courses in engineering subjects and since other campuses do, students majoring in one of the divisions at Irvine may have difficulty in completing their programs on other UC campuses*

in six quarters. For transfer to Irvine there are no prerequisites for junior work in the School of Engineering other than the requisite mathematics and physics courses.

The junior year in the School of Engineering includes two required courses in engineering and one in upper division mathematics running throughout the year. Since some students will be entering their junior year without having had a course in digital computer programming, there is an opportunity in the beginning of the junior year to make up this or some other deficiency. Beginning with the second quarter, a technical elective program provides students an opportunity to do more work in the particular field of engineering appealing to them.

In the senior year additional electives will be available to follow the programs begun in the junior year. A single required engineering course in the senior year is *Engineering Design*. Students will be expected to make a choice between mathematics and physics courses in the senior year. There is also a two-course opening in the program so that students may elect any two courses in the University if they so desire.

Students in the School of Engineering should bear in mind the general campus policy which permits them to take courses in non-contiguous areas on a pass/not pass basis. Noncontiguous areas with respect to engineering are all those in the Fine Arts, Social Sciences, and Humanities Divisions.

It should be emphasized that the programs of study in the School of Engineering are tailor-made to the desires and objectives of individual students. Students will work out programs of study with their faculty advisor so as to maximize the educational experience offered by the Irvine campus. Students must realize that they, and they alone, are responsible for the planning of their 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.

GRADUATION REQUIREMENTS

The faculty expects each undergraduate student to meet the requirements of the University* and of the School of Engineering as follows:

1. Credit for forty-five courses including the following:
 - a. Engineering: 100A, 100B, 101A, 101B, 102, 103, 104A, 104B, 104C, plus six electives.
 - b. Mathematics: Nine courses, three of which must be upper division courses.
 - c. Basic science (physics, chemistry, biology): Eight courses from two sciences.

*These are listed under the College of Arts, Letters, and Science and are the same for the School of Engineering.

- d. Fine Arts, Humanities, and Social Science: Nine courses, six in one division, and three in another.
- 2. A grade average of at least C.
- 3. Credit for the final twelve courses must be earned while in residence on the Irvine campus.

Figure 1 shows in block form a typical program of study for a student terminating at the B.S. level or for a student wishing to continue to the M.S. The Ph.D. program is not included in Figure 1 since there are no specific course requirements.

FIGURE 1
Typical program leading to the B.S. and M.S. degrees in Electrical Engineering

↑	FRESHMAN	↓				
↑	SOPHOMORE	↓	Math. 2	I.C.S. 1	Chem. 1 or Bio. Sci. 1	Soc. Sci. 1
↑	JUNIOR	↓	Math. 3	Physics 5	Humanities or Fine Arts Electives	Soc. Sci. Electives
↑	SENIOR	↓	Upper Division Math. Elective	Engr. 100 Engr. 102	Engr. 101 Engr. 103	Engineering Electives
↑	M.S.	↓	Upper Division Math. or Physics Elective	Engr. 104	Engineering Electives	
↑		↓	Math. or Engineering Elective	Graduate Engineering Elective	Graduate Engineering Elective	

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, but 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 specific course is offered. All courses in the School are available for such proficiency examinations.

Graduate Programs

Graduate study in the School of Engineering permits delving into a subject in considerable depth while at the same time developing breadth. Graduate study toward the M.S. and Ph.D. degree is applied-science oriented and should provide an excellent base for future professional growth through excellent understanding of the basic phenomena associated with the student's chosen field. Professional study concerned with the design and synthesis function of engineering is planned as a future program in the School.

ADMISSION

Admission to graduate standing in the School of Engineering is generally accorded those possessing a B.S. degree in engineering or in allied science obtained with an acceptable level of scholarship from an institution of recognized standing. Those seeking admission without the requisite scholarship record may, in some instances, undertake remedial work; if this is completed at the stipulated academic level, they will be admitted to full graduate standing. The Graduate Record Examination is required.

THE MASTER OF SCIENCE IN ENGINEERING

Those wishing to pursue graduate work in control system theory, plasma physics, quantum electronics, communication and information systems, digital computer systems, optimization theory, and water resources will find faculty prepared to offer courses and guide their research. For the M.S. degree with thesis nine courses will be 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 be an exercise demonstrating a capability of undertaking a study original with the student 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.

For most, if not all, students at least three courses (either graduate or undergraduate) must be in the field of mathematics.

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 faculty of the School. Part-time students will be limited to one course per quarter if fully employed and those holding research or teaching assistantships will not be permitted a full four-course load. Engineers in industry may find it convenient to complete some undergraduate courses in University Extension at one of the centers; up to one-half of his program may be completed in Extension. Courses taken on another campus of the University will be accorded full credit if taken after admission to Irvine; up to two courses will be credited upon admission if taken in Extension or on another campus of the University, or in another university.

THE DOCTOR OF PHILOSOPHY IN ENGINEERING

As is common in other schools and colleges, the doctoral program in engineering leading to the Ph.D. will be tailored to the individual needs and background of the student. There will be no course requirements but rather several milestones to be passed: (1) admission to the Ph.D. program by the faculty of the School; (2) passage of the preliminary examination assessing the student's background and his potential for success in the doctoral program; (3) satisfaction of the teaching requirements required of all doctoral students; (4) research preparation including languages; and (5) completion of a significant research investigation. The degree is granted upon the recommendation of the Doctoral Committee and the Dean of the Graduate Division. Throughout the doctoral program it is expected that the student will be resident in the School.

Some financial aids such as research and teaching assistantships will be available so that each doctoral student, after he has passed the preliminary examination, will have a staff appointment in the School of Engineering.

Special Programs

TEACHER TRAINING: Students interested in preparing for a secondary and junior college teaching credential in an allied and contiguous field may follow the regular program for engineering

majors. They complete their total program by satisfying the requirements for a secondary or junior college credential in the fifth year. Students interested in this program should contact the Office of Teacher Education at the time they enter the School of Engineering.

ADMINISTRATION: Undergraduate degree programs in business and public administration are not offered at UCI. Engineering students wishing to prepare for a career in business or government can major in engineering and elect those prerequisite courses required for the program of study in the Graduate School of Administration. Students interested in engineering administration are advised to make this desire known early in their collegiate career.

INFORMATION AND COMMUNICATION SCIENCES: Both graduate and undergraduate students may participate in the courses and programs offered in this interdisciplinary area. Several members of the School hold joint appointments in the Information and Communication Sciences. Students wishing to pursue a program of study at the graduate or undergraduate levels should consult with them or with their advisor.

THE FACULTY

- C. W. BARNES, JR., *Associate Professor of Engineering and Information and Communication Science*
- N. J. BERSHAD, *Assistant Professor of Electrical Engineering and Information and Communication Science*
- R. R. BROCK, *Acting Assistant Professor of Civil Engineering*
- B. N. EDWARDS, *Lecturer in Electrical Engineering*
- D. ISAACS, *Assistant Professor of Electrical Engineering*
- N. RYNN, *Professor of Electrical Engineering and Physics*
- R. M. SAUNDERS, *Professor of Electrical Engineering and Dean of the School of Engineering*
- R. SCHINZINGER, *Assistant Professor of Electrical Engineering*
- J. SKLANSKY, *Associate Professor of Electrical Engineering and Information and Communication Science*
- D. T. TUMA, *Assistant Professor of Electrical Engineering*

Courses of Study

- 100A-100B *Lumped Parameter Analysis* (1-1) fall, winter
 Prerequisites: *Physics 5E, Math 3C, ICS 1* (may be taken concurrently).

- 101A-101B *Continuous Media and Fields* (1-1) fall, winter
Prerequisites: *Physics* 5E, *Math* 3C, *ICS* 1 (may be taken concurrently).
- 102 *Signal Theory* (1) spring
Prerequisite: *Engineering* 100B.
- 103 *Energetics* (1) spring.
Prerequisite: *Engineering* 101B.
- 104A-104B-104C *Engineering Design* (1-1-1) fall, winter, spring
Prerequisites: *Engineering* 102, 103.
- 110A-110B *Electronics* (1-1) winter, spring.
Prerequisite: *Engineering* 100A. Corequisite: *Engineering* 100B.
- 111A-111B *Network Analysis and Synthesis* (1-1) winter, spring
Prerequisite: *Engineering* 100A. Corequisite: *Engineering* 100B.
- 112A-112B-112C *Electronic Systems* (1-1-1) fall, winter, spring
Prerequisite: *Engineering* 102.
- 115A-115B-115C *Systems Engineering* (1-1-1) fall, winter, spring
Prerequisite: *Engineering* 103.
- 116A-116B *Engineering Probabilities, Stochastics, and Statistics* (1-1)
winter, spring
- 120A-120B *Switching Circuits and Sequential Machines* (1-1) winter,
spring
Prerequisites: *Engineering* 100A, *ICS* 1. Corequisite: *Engineering* 100B.
- 121A-121B-121C *Digital Computing Machinery Analysis and Design*
(1-1-1) fall, winter, spring
Prerequisite: *Engineering* 102.
- 125A-125B-125C *Information and Communication Theory* (1-1-1) fall,
winter, spring
Prerequisite: *Engineering* 102, 116B.
- 130A-130B-130C *Materials and Fields* (1-1-1) fall, winter, spring
Prerequisite: *Engineering* 103.
- 140A-140B-140C *Control Systems* (1-1) fall, winter, spring
Prerequisite: *Engineering* 100A. Corequisite: *Engineering* 100B.
- 146A-146B *Orbital Mechanics* (1-1) winter, spring
- 155A-155B *Fluid Mechanics* (1-1) winter, spring
- 160A-160B-160C *Water Pollution Control* (1-1-1) fall, winter, spring
- 161A-161B-161C *Hydraulics* (1-1-1) fall, winter, spring
Prerequisites: *Engineering* 101A-101B.
- 198A thru L *Engineers & Engineering* ($\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$) fall, winter, spring

Graduate Courses

- 201A-201B-201C *Electromagnetic Theory* (1-1-1) fall, winter, spring
(Offered as *Physics 213A-213B-213C*). Prerequisite: *Engineering 130C*. (Offered odd-numbered years only.)
- 210A-210B-210C *Optical Systems and Processes* (1-1-1) fall, winter, spring
Prerequisites: *Engineering 125C, Engineering 130C*.
- 220A-220B-220C *Pattern Recognition* (1-1-1) fall, winter, spring
Prerequisite: *Mathematics 130A-130B-130C* or *Engineering 125A-125B-125C*.
- 225A-225B-225C *Decision, Detection, and Estimation Theory* (1-1-1) fall, winter, spring
Prerequisites: *125A-125B-125C*.
- 235A-235B-235C *Properties of Plasmas* (1-1-1) fall, winter, spring
- 240A-240B-240C *Random Processes in Automatic Control Systems* (1-1-1) fall, winter, spring
Prerequisites: *Engineering 125C, Mathematics 130C*. (Offered odd-numbered years only.)
- 241A-241B-241C *Optimization of Control Systems* (1-1-1) fall, winter, spring
(Offered even-numbered years only.)
- 260A-260B-260C *Water and Wastewater Treatment* (1-1-1) fall, winter, spring
Prerequisite: *Engineering 160A-160B-160C*.
- 298 *Group Seminars* (may be repeated each quarter)
- 298-Sec. 1 *Programming Methods for Control Systems* (1-1-1) fall, winter, spring
- 298-Sec. 2 *Plasma Physics* (joint with Physics Department) (1-1-1) fall, winter, spring
- 298-Sec. 3 *Optimization Theory* (1-1-1) fall, winter, spring
- 298-Sec. 4 *Quantum Electronics* (1-1-1) fall, winter, spring
- 298-Sec. 5 *Communication Theory* (1-1-1) fall, winter, spring
- 298-Sec. 6 *Trainable & Adaptive Systems* (1-1-1) fall, winter, spring
- 299 *Individual Study or Research* (may be repeated each quarter)

THE FACULTY

JULIAN FELDMAN, *Professor of Psychology and Information and Director of the Program in Information and Communication Science*

GEORGE BROWN, *Dean of the Graduate School of Administration and Professor of Administration and Information and Communication Science*

ROBERT GORDON, *Lecturer in Administration and Communication Science*

JAMES KERANS, *Lecturer in Administration and Communication Science*

FRED TONGE, *Professor of Administration and Information and Communication Science*

INTERDIVISIONAL PROGRAM IN INFORMATION AND COMMUNICATION SCIENCE

The interdisciplinary program in Information and Communication Science is concerned with the theoretical understanding of information, its representation, transmission, and processing in natural and artificial systems. Special attention is paid to the uses and roles of modern computing systems in information processing.

Courses of Study

UNDERGRADUATE COURSES

- 1 *Digital Computer* (1) fall, winter, spring
- 180 *Special Topics* (1) fall, winter, spring
- 199 *Individual Study* (1) fall, winter, spring

GRADUATE COURSES

- 280 *Special Topics* (1) fall, winter, spring
- 299 *Individual Research* (1) fall, winter, spring

Faculty permission required for all 180, 199, 280, and 299 enrollments.

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, will be 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 disciplines 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.

Admission to the Graduate Division is by the Graduate Dean on the advice of the department and the Graduate Council. Completion of work towards a Bachelor's degree, with adequate coverage and academic excellence, is a normal 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 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 Division, and the Department of specialization.

THE GRADUATE DIVISION

R. W. GERARD, *Dean*

2

THE MASTER'S DEGREE/The M.A. or M.S. is normally attained by one of two routes: Plan I, a thesis; and Plan II, a comprehensive examination. Both require normally one year of residence on the campus, a foreign language as specified by the department, a certain number of courses maintained at a B average, and an appropriate demonstration of achievement. Plan I includes course work, a certain number of which 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 a more searching examination 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, will also be offered. Divisional 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 thesis is expected to demonstrate such abilities. Other Doctor's degrees, marking professional attainment, and with correspondingly different emphasis, will be offered after 1967-68. The M.D. is offered through the California College of Medicine, now part of the University of California, Irvine.

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 baccalaureate 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 Graduate Dean, which henceforth supervises his graduate program.

For information on admission to graduate status, see Page 000 in the section entitled *Admission to the University*.

INTRODUCTION/The Graduate School of Administration offers a program of advanced study through which individuals may prepare for significant roles in business or industry, in education, and in government. Among others, these roles include corporation managers, program directors, federal executives, state and local officials, urban planners, administrators for all levels of the educational system, organizational staff experts, political leaders, hospital administrators, managers of scientific or research enterprises, engineer-administrators, researchers, and faculty members. Two 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 can be found which are appropriate to a wide range of organizational or scholarly roles. These considerations point clearly toward the need for a *general* professional and academic education that integrates the contributions of a variety of disciplines and perspectives toward handling these common problems, whatever their specific organizational locale.

THE GRADUATE SCHOOL OF ADMINISTRATION

GEORGE BROWN, *Dean*

2

The kind of generalist who should emerge from this experience should also be a *specialist* in three respects: he should be equipped with appropriate and tested methods for handling particular technical problems (e.g., application of a systems approach to budgeting); he should have a reasonably thorough grasp of typical organizational patterns in *one* of several institutional realms having its own particular conditions and problems; and he should be able to see the organizational phenomena and problems through the eyes of one discipline in which he has had enough work to command its distinctive perspective and methods.

The program is intended to increase the likelihood that future leaders will be able to communicate effectively and even to move easily from one kind of organizational unit to another, thereby providing society with versatile managers and administrators.

Apart from formal study devoted to the generalist and specialist aspect of future leadership roles, and apart from intellectual activities common to all degree candidates, it is expected that each individual will be responsible for tailoring his total two-to-four-year experience to his prior education, his present development, and future aspirations—in short, his own individuality.

A FULL-TIME PROGRAM/Owing to the unusual nature of the initial

mission of the Graduate School of Administration and to the relatively small faculty which is anticipated during the early years, it will not be possible to admit part-time degree candidates except in rare instances. The integrated program of study for the first year makes it highly unlikely that an adequate education could be obtained on the course-by-course basis possible in other institutions. A full-time student is one who is *not* carrying a regular full-time job off campus and/or one who enrolls for not less than three courses or their equivalent. Exceptions to this policy may be granted only by the Dean. It should be noted, however, that UCI Extension offers a rich curriculum in areas bearing on administration.

- EDUCATIONAL OBJECTIVES/In this age of rapid social change, including most dramatically the knowledge explosion, no formal educational program can hope to do more than a) provide as thorough a grounding as possible in what appear to be enduring intellectual capabilities, and b) encourage and help the future leader to become a continuing learner. Hence a major objective is to bring formal learning into line with the reality of rapid changes in the state of knowledge. Heavy emphasis must be placed on the development of the individual's capacity for acquiring, using, and evaluating the knowledge necessary for, and related directly to, the making and implementing of organizational decisions.

Regardless of the content of particular courses, it is expected that all degree candidates must be exposed to and have the ability to use the following:

1. *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.
2. *Basic Techniques of Analysis, Decision Making, Problem Solving, Planning and Control of Operations*: Decision Theories; Operations Research; Systems Analysis; Budgeting, Accounting, and Personnel Policies; Experimental Techniques for Inducing Attitude and Behavior Changes; Computer Technology and Information Sciences; Economic Analysis; Research Design and Strategies.
3. *Major Conceptual and Empirical Foci*: Basic Concepts of Management; Organizational Anatomy, Physiology and Pathology, including Comparative Analysis and Interorganizational Relations; Levels and Units of Decision Making; Individual Behavior and Group Norms; Operating Environments of Organizations.
4. *General Knowledge: The Broader Context of Organization and Management*. The Mid-Twentieth Century (Significant Trends,

Conditions, and Problems): Societies (Nature and Operation of Social Systems); History of Science, Scientific Inquiry and Philosophy of the Social Sciences.

5. *Specific Knowledge of Particular Arenas of Administration.* Depth Study of Educational, Governmental, or Business-Industrial Organizations. (Subspecialties; for example, the administration of scientific and research enterprises will be encouraged.)
6. *General Skills.* Whether the source of such skills lies in intuitive experience or formal learning, political skills, effective management of interpersonal relations, leadership strategies and tactics, and competence in oral and written expression require explicit attention and effort.
7. *Professional Orientations.* Identification of factors, values, and rules which might bear on successful, responsible, and intellectually honest performance of organizational roles. Recognition of administrator's potential contributions to society and of ethical and moral problems which arise from social research and management of human enterprises.

LEARNING EXPERIENCES / Courses or seminars are only some of perhaps a dozen learning experiences which will be available. Two principles ought to be underscored: first, the fundamental value of an apprentice relationship with the faculty; second, the necessity to learn by doing, whether in the field or in the laboratory.

The following are the major kinds of learning experiences which will be stressed: seminars; independent reading and tutorial relationships; self-instruction; faculty-student research partnerships; in-service training; use of computer technology; small group experiments; the case method; simulation; oral and written expression; technical report writing; continuous contact with practitioners; exercises in application of basic tools and techniques; teaching experience; and interdisciplinary team activity.

- **GENERAL REQUIREMENTS /** Admission inquiries should be addressed to the Graduate Admissions Office of the UCI Graduate Division. In addition to the general University of California rules governing admission to graduate study, the Graduate School of Administration requires:

1. Either the Graduate Record Examination (verbal and quantitative parts) or the Admission Test for Graduate Study in Business.
2. Subject matter preparation:
 - a. mathematics through calculus.
 - b. elementary social statistics, including correlational analysis, tests of significance and probability.

- c. a basic course in economic analysis. (One year of introductory study.)
 - d. formal study of the principles and determinants of individual and group behavior with particular reference to social contexts and consequences. (One year of introductory study.)
 - e. foundations of political analysis; the aims and methods of describing and explaining political systems, institutions, and processes. (One year of introductory study.)
3. A previously prepared paper (research report, essay, case study) which may be indicative generally of the applicant's interests and capabilities.

Degree Programs

For the most part, degree requirements are stated in terms of meshing desired educational outcomes and related learning experiences rather than in terms of a number of courses or credit hours. The actual course of study will result from a combination of 1) a prescribed, common first year, 2) several kinds of specialization, and 3) maximum individual choice. At the beginning of the first year of study, a systematic appraisal of the candidate's current level of preparation in core disciplines and techniques will be undertaken as a guide for future decisions. At any time, required studies may be exempted by examination or other forms of certification.

Although the M.S. degree is intended primarily for future practitioners, and the Ph.D. is intended primarily for future teacher-researchers, much of the intellectual foundation for both degrees is identical, and fundamental learning experiences are similar. A shift from one program to the other will be encouraged if a candidate's record and motivation justify such a change, and if additional time for acquisition of research skills can be afforded.

THE MASTER OF SCIENCE IN ADMINISTRATION

This course of study will normally take two full academic years, including, for most candidates, related work during two summers. Beyond the required first-year program and the second-year continuing seminar in the area of specialization, electives may be chosen freely on the basis of criteria derived from an evaluation of the candidate's general preparedness in terms of the objectives of a professional degree. A problem paper, submitted during the third quarter of the second year, will be required before the degree will be recommended. The paper must constitute a rigorous exercise in the application of appropriate knowledge and skills to a real situation.

In addition to the two-year program for students who have already received a Bachelor's degree, outstanding UCI under-

graduate students may enter a cooperative "three-two" program with the Division of Social Sciences or the School of Engineering. Students in such a program will spend their first three years in Social Science or Engineering 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 five years.

THE DOCTOR OF PHILOSOPHY IN ADMINISTRATION

Given the objectives and educational activities associated with the Ph.D. degree, it seems likely that at least three and probably four years of approximately full-time effort will be required. Whether this time will all be spent "in residence" in the technical sense will depend in part on the pattern of in-service training and/or field research. Over and above the extensive preparation in core disciplines and areas of technical competence expected of future managers and administrators, the Ph.D. must qualify as a skilled researcher and complete a significant exercise demonstrating these skills. (See section below on First-Year Electives.)

Admission to candidacy for the Ph.D. degree will be on the basis of a qualifying examination, normally at the end of two years of full-time study. Included in the examination will be a research design for a dissertation project which must be defended and approved.

THE FACULTY

GEORGE BROWN, *Dean of the Graduate School of Administration and Professor of Administration and Information and Communication Science*

LYMAN PORTER, *Associate Dean and Professor of Administration Psychology*

HENRY FAGIN, *Professor of Administration and Research Administrator of PPRO*

JULIAN FELDMAN, *Professor of Psychology and Information and Communication Science and Director of the Program in Information and Communication Science*

GORDON J. FIELDING, *Assistant Professor of Geography and Administration*

ROBERT M. GORDON, *Lecturer in Administration and Information and Communication Science*

STEPAN KARAMARDIAN, *Assistant Professor of Administration and Mathematics*

MEI LIANG KATO, *Acting Assistant Professor of Administration*

JAMES KEARNS, *Lecturer in Administration and Communication Science*

KENNETH KRAEMER, *Assistant Professor of Administration and Assistant Research Administrator of the Public Policy Research Organization*

JAMES G. MARCH, *Professor of Psychology and Sociology and Dean of the Social Science Division*

RICHARD C. SNYDER, *Professor of Administration and Political Science*

FRED M. TONGE, *Professor of Administration and Information and Communication Science*

DONALD WALKER, *Senior Lecturer in Administration and Vice Chancellor for Student Affairs*

JOHN WALLACE, *Associate Professor of Administration and Psychology*

DAVID WOLFE, *Visiting Research Associate in Administration*

■ *Course of Study*

FIRST-YEAR PROGRAM (All Degree Candidates)

The first-year program has two fundamental aims: (1) to identify the significant aspects and phenomena of complex organizations and to bring to bear the relevant contributions of the core disciplines or interdisciplinary sources on the analysis of organizations; (2) to induce familiarity with, and ability to select and use effectively, the appropriate means, methods, and strategies for diagnosing and solving organizational problems.

Though geared to the usual breaks of the quarter system, the pattern of study in the first year is designed to be continuous and to take *twelve calendar months* from the beginning of the fall quarter.

A. *Required*

200A, 200B, 200C *Foundations of Administration* (Credit equivalent of three courses per quarter or 12 units).

Note: The first year consists of two sequences, both describable either as a step-by-step technical preparation or a coherent interpretive framework for considering certain phenomena and problems. The two sequences will be coordinated. Sequences I and II will each require the expenditure of a concentrated five or six hours of formal meeting time. (While three courses—12 hours—is considered a normal load, the equivalent of a fourth course may be taken.) In addition to regular seminar assignments, directed browsing among major cases, research reports, basic books which systematize knowledge, and classics in organizational behavior will be expected. Assessments of progress, sometimes in the form of examinations, will be made after each quarter segment of both sequences.

Sequence I: *Basic Tools and Techniques Relevant to Decision-Making and Problem-Solving in an Organizational Context*

1. *Statistics*. Sampling techniques. Estimation. Hypothesis testing. Correlational and regression analysis. Analysis of variance. Design of experiments.

2. *Operations Research*. Linear and non-linear programming. Dynamic programming. Game theory. Queuing and inventory theory. Network flows.

3. *Computer Technology and Information Processing*. Hardware and software capabilities and problems. Programming. Computer aids to management. Research and educational applications.

4. *Laboratory and Laboratory-Based Techniques*. Controlled experimentation focused on small group and organizational problems and phenomena. Strategies for inducing attitude and behavior changes.

5. *Simulation and Gaming*. Range of simulation techniques and their uses. Systematic exercises in all-computer, man-machine, and man-man simulations.

6. *Operations and Controls*. Budgeting. Accounting. Production. Personnel policies. Problems of organizational change.

Sequence II: *Core Disciplines and Interdisciplinary Approaches*

Note: The purpose of this sequence is *not* to provide "short courses" in the core disciplines, but rather to sharpen and develop the ability to identify and apply appropriately relevant bodies of data, operational theories, analytic and problem-solving techniques, for example: politics of organizations, economic analysis, systems design and analysis, normative and empirical decision theories, etc.

1. *Agenda Setting*. Educational objectives related to the nature and functions of leadership, management, and administration. Key issues involved in research and practice. Multiple mid-twentieth century environments of science and technology. Scientific inquiry.

2. *Toward an Intellectual Framework*. Major concepts of administration and management. Organizations. Problem-solving. Decision-making. Systems analysis.

3. *The Analysis of Complex Organizations*. Intra-organizational and inter-organizational behavior. Organization-environment relations. Basic characteristics of organizations. Classification and comparison. Empirical and normative theories.

4. *Individual Factors* (Psychology).

5. *Interpersonal and Intergroup Processes* (Social Psychology).

6. *Social Structural and Social System Factors* (Sociology).

7. *Organizations as Economizing Enterprises* (Economics).

8. *Organizations as Political Enterprises* (Political Science).

9. *Applications of Sequences I and II to Selected Problems.* Operations and control processes. Financial decisions. Constituency analysis. Administrative processes. Leadership and morale planning.

B. *Electives*

Given due consideration to prior preparation and to the consequences of the work load of *Foundations of Administration*, candidates are encouraged to *begin as soon as possible to intensify their study in a particular discipline* (economics, psychology, political science, sociology, mathematics, engineering, geography, etc.) *or in a particular supra-disciplinary technique or perspective* (for example, operations research or systems analysis).

Ph.D. candidates should begin at once to prepare themselves in research design and strategies. Formal courses might be chosen on the basis of their potential contribution to: criteria of design; experiments; factor analysis; sample survey, gross data analyses; interviewing techniques; content analysis; participant-observation; natural histories; depth studies versus large population comparisons.

THE SECOND-YEAR PROGRAM

Major Theme: Acquisition of Institutionally Specialized Substantive Knowledge.

A. *Required*

210A, 210B, 210C: *Continuing Seminar in Education, Business-Industry, and Government* (Equivalent of one course per quarter or 4 units)

Note: In effect, the Continuing Seminar will be divided into three sections, each led by one or more faculty experts. The sections will be devoted to an intensive exploration of a particular institutional pattern and its associated problems. Emphasis will be on a basic understanding of enduring structures and processes, as well as on change, environmental challenges, and emergent problems. All three quarters are required.

210A1, 210B1, 210C1: *Educational Administration*

Types of units and loci of decision. School systems as politics. Economics of education. Administrative and organizational issues. Interrelations of educational administration and learning. Special problems of higher education.

210A2, 210B2, 210C2: *Business and Industrial Management*

Theory of the firm. Non-economic factors in corporate activity. Markets, competition and conflict. Interrelations of organization and task. Problems of centralization, decentralization. New techniques of management. Large scale enterprises and social power. Business size and characteristics of operations—small versus big business.

210A3, 210B3, 210C3: *Administrative Behavior and Management Problems in Governmental Settings*

Public administration and the political process. Nature and operation of large scale public enterprises. Program development and implementation. Interlevel communication and coordination. Budgeting and objectives. Public-private interfaces. Mixed programs and systems of action. Evaluation of policy outcomes.

280A, 280B, 280C: *Advanced Study in Special Topics*

Each quarter a limited number of optional seminars will be offered by the Graduate School of Administration faculty. These seminars will be scheduled on the basis of program needs and availability of faculty time. Examples of possible foci: interactions of government and business social budgeting in critical policy areas; management of research and development; organizational problems of urbanization; regional planning; the economics of education; educational leadership and the political process; new techniques of production management.

299A, 299B, 299C: *Independent Reading*

Supervised reading chosen on the basis of individual need. Variable credit. Written critical evaluations of items read, as well as a paper, will be required.

Teaching Experience

Some time during the second year every degree candidate will engage in formal instruction, generally as a teaching assistant or as a resource person in connection with an established course or program of study. Opportunities may be found off campus. The length of time will depend on circumstances. Certification of minimal competence will be required though no grade or credit will be given.

B. *Electives*

During the second year courses might be selected which would serve the following purposes:

1. Additional study designed to strengthen grasp of mathematics, statistics, basic quantitative and qualitative techniques of analysis; decision making; and problem solving.
2. Continued depth experience in a single discipline.
3. Fulfillment of requirements in "general skills" and "professional orientations" as noted above.

SUMMER ACTIVITIES/The Graduate School of Administration regards summer work as essential to the maximum use of time over the two to four years normally needed to complete the M.S. or Ph.D. degree. During the first summer following the integrated

Foundations of Administration course, it is expected that refresher training in basic skills and further exercises in application will be undertaken on the basis of assessments made throughout the regular academic year. Independent reading and laboratory or field projects will round out summer schedules.

JOINT DEGREE PROGRAMS/Subject to special qualifications on the part of candidates and to the meshing of requirements imposed by the degree granting divisions involved, joint degrees are possible and under certain circumstances, encouraged. However, it is understood that the attempt to satisfy simultaneously two sets of specifications makes sense only where there is sufficient overlap of preparation, requisite faculty supervision, and sufficient career motivation. Decisions to pursue a joint degree ought to be made early in the individual's program. Joint degrees will be possible in such areas as engineering, anthropology, economics, political science, psychology, sociology, and geography.

CONTINUING EDUCATION/From time to time the Graduate School of Administration will provide opportunities for advanced study in a variety of forms including short courses, symposia, post-doctoral fellowships, sabbaticals for representatives of government, education, and business. Some of these special programs will be offered in cooperation with UCI Extension (see Extension Bulletin); others will constitute a part of the regular academic program. Details can be secured either from the GSA or the UCI Extension Office. The number and content of continuing education activities will vary from year to year.

RESEARCH OPPORTUNITIES AND FACILITIES/In addition to possible participation in the research projects conducted by individual faculty members, degree candidates will have a chance to observe the diagnostic activities of the Graduate School of Administration's *Clinic for the Application of the Social and Behavioral Sciences to Organizations*, and to play a role in the *Orange County Laboratory for the Continuous Monitoring of Social Change*. Access to the UCI Computer Facility, to the Self-Instructional Laboratory, and to the experimental small groups and simulation laboratories, will complete the reservoir of "research technologies" available to the future manager, administrator, teacher, or researcher.

KENNETH P. BAILEY, *Lecturer in History and Education*

Education as a discipline involves not only a systematic study of the theories, problems, and methods of teaching as preparation for classroom teachers, but also seeks to analyze education both as a process and as a cultural phenomenon. The degree to which the lives of a people are shaped and directed by their schools lends urgency to research into what is good, better and best in educational policies and practice. The relationship between school and society, the learning process, curriculum construction, purposes and philosophy of education, are all legitimate concerns of a university which would clarify the role of the teacher in the school and the role of the school in society.

The faculty assumes as one of its responsibilities the education of teachers for elementary and secondary schools and junior colleges. Those responsibilities are to be met through curricula combining subject matter concentration in teaching fields, studies seeking to relate theory and practice, and supervised internships designed to test educational theory in teaching and to develop professional attitudes.

Candidates for standard teaching credentials should plan to meet all preprofessional requirements as part of their undergraduate programs.

General education requirement: Seventeen courses, in addition to those required for the major, are required for all credentials. Elementary credential candidates must include course work in five of the following six

areas; secondary and junior college credential candidates must include course work in four of the areas.

Humanities

Natural Sciences

Fine Arts

Social Sciences

Mathematics

Foreign Languages

All credentials require a year of English and demonstrated competence in composition.

Elementary credential candidates must also complete one course in the theory of the structure, arithmetic, and algebra of the real number system, or a course in calculus.

THE EDUCATION OF TEACHERS

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Major requirement: All candidates must complete a major which consists of at least nine upper-division and/or graduate courses. The major preferably should be one which is commonly taught at the school level for which the credential will be secured.

Minor requirement: Candidates with an academic major that is commonly taught in the public schools at the level for which the credential is to be secured need not complete a minor; however, secondary credential candidates in history, social sciences, and biological sciences may have difficulty securing a teaching position if they do not have a minor field.

If the major is academic but not commonly taught at the public school level for which the credential will be secured, two minors that are commonly taught will be required. Each minor, for credential purposes, must consist of five courses.

All faculty members will participate in teacher education, apprising themselves of the needs of elementary and secondary schools, planning curricula, and lending support to young men and women interested in teaching careers. Future teachers will be part of the entire intellectual climate of UCI, studying with colleagues of like academic bent who may or may not be planning to become teachers.

The University is fortunate to be surrounded by excellent schools that can provide an array of opportunities for students to observe and participate in educational affairs and gifted personnel who will work side by side with University students. Master teachers in these schools will provide a clinical orientation through their supervision of interns and participation in accompanying lectures, seminars, field trips, and workshops.

Plans are now being developed so that after graduating and completing preinternship work, prospective teachers may be employed as paid, part-time teaching interns in cooperating public schools. Lectures, seminars, and clinics are to be designed to relate theory and practice. The student will be recommended for a teaching credential when he has demonstrated a satisfactory level of insight into educational problems and issues, the ability to apply pertinent knowledge in the analysis of learning, and the ability to guide the learning of others.

Students planning to teach in junior colleges will complete a master's degree, concentrating in appropriate teaching fields. They may combine professional studies and a paid teaching internship in the year following attainment of the master's degree.

There are certain course requirements for the secondary teaching certificate. The student must take either *Sociological Foundations of Education* or *History and Philosophy of Education*. He must take *Psychological Foundations of Education*, *Secondary School Curriculum and Organization*, and *Methods of Teaching in the Secondary School*.

Courses of Study

- 101 *Secondary School Curriculum and Organization* (1) winter
- 102 *Methods of Teaching in the Secondary School* (1) spring
- 170 *History and Philosophy of Education* (1)
- 171 *Psychological Foundations of Education* (1)
- 172 *Sociological Foundations of Education* (1)
- 180 *Special Topics* (1) fall, winter, spring
- 199 *Individual Study* (1) fall, winter, spring

Courses in Elementary Education to be announced.



EDUCATION ABROAD PROGRAM

The Education Abroad Program offers opportunities to undergraduate students of the University of California to study in universities overseas, and serves also as a source of information on all types of educational exchange experiences. It is administered for the University by the Santa Barbara campus.

In 1967-68 the University will continue the operation of its study centers in France, Germany, Italy, Japan, Spain, Hong Kong, Greece, Sweden, and the United Kingdom and will open new centers in Israel and Lebanon. The centers range in size from ten to one hundred students.

Eligibility requirements are: upper division standing in the University at the time of participation, two years of university-level work in the language of the country with a B average (or equivalent thereof), an overall B average, seriousness of purpose, and an indication of ability to adapt to a new environment. Transfer students are eligible if they meet the language requirement and have completed at least one language course in the University of California. (The language requirement is not applicable to the centers in Greece, Hong Kong, Japan, Israel, Lebanon, and the United Kingdom.) Special arrangements can be made for the participation of graduate students.

The participants will 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. (The program in Delphi, Greece is for the summer and spring quarters only.)

All will be concurrently enrolled as students at the University of California and in the host university and will receive full academic credit for courses satisfactorily completed. See Education Abroad Program in the bulletin of the University of California, Santa Barbara, for a partial listing of the courses available.

The Regents endeavor to bring this year abroad within the reach of all students, regardless of their financial resources.

INSTRUCTIONAL
AND RESEARCH
SERVICES

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Applications for 1968-69 should be in by January 11, 1968, with the exception of applications for the United Kingdom and Greece which should be in by November 15, 1967.

For further information write to the Education Abroad Program, 2108 South Hall, University of California, Santa Barbara.

THE UNIVERSITY LIBRARY

Over 160,000 books and about 4,000 current journals are accessible in a modern and bright air-conditioned building. A staff of more than seventy persons, including twenty professional librarians, is engaged in further rapid expansion of resources and in assisting faculty and students in the use of library materials and services.

Library services and procedures are described in the *Library Handbook*, which is available in the Library.

Daily shuttle service to the extensive UCLA Library is available to those in need of resources not yet available in the UCI Library.

Plans are in motion to institute computer-assisted procedures for many library operations.

THE COMPUTER FACILITY

ROBERT M. GORDON, *Lecturer in Administration
and Director of Computer Facilities*

The Computer Facility provides computational and other information processing services for instructional and research purposes to members of the University community. The computer system is designed for easy access by faculty and students through use of remote on-line stations and appropriate programming languages. Computer Facility staff provide consulting service to users on difficult programming problems and offer short, non-credit courses on the available services.

RECREATIONAL SPORTS

The recreation sports program provides opportunities for all men and women students to participate in a wide variety of individual and team sports. Competition is organized on the basis of individuals and teams representing campus student organizations and residence halls.

In addition to organized competition, recreation sports clubs are organized for the purpose of providing students, faculty and staff with special recreation interests the opportunity to meet throughout the year. Handball, rugby, rifle, sailing, and squash clubs have been organized to date. Persons interested in joining or organizing a recreation sports club should contact the recreation sports office for further information and assistance.

INTERCOLLEGIATE ATHLETICS

In 1967-68, UCI will have representative teams in basketball, crew, golf, gymnastics, sailing, swimming, tennis and water polo. The program will be expanded as rapidly as facilities and finances permit. When sufficient student interest is demonstrated, a program of intercollegiate athletics for women will be offered in such sports as golf, tennis, and swimming. For information regarding present or future sports teams, inquiries may be made to the Director of Athletics, Campus Hall.

JOURNALISM

Students interested in careers in journalism should major in one of the regular disciplines and use electives to complete a suitable interdisciplinary program, including work in such fields as writing, literature, the social science of communication, information and communication science, and administration. For further information students should consult the Chairman of the Department of English or the Chairman of Academic Advising in the Division of Social Sciences.

AGRICULTURE

Students who wish to major in one of the agricultural sciences and who plan to transfer in advanced standing to the College of Agricultural Sciences, Berkeley; the College of Agriculture, Davis; the School of Agricultural Sciences, Riverside; the School of Forestry, Berkeley; or the School of Veterinary Medicine, Davis, may complete most of the requirements for the first two years of their undergraduate work at Irvine, on any other general campus of the University, or at one of California's junior colleges.

Majors in the agricultural sciences offered on the campuses listed above include: plant and animal sciences, agricultural economics, soils and plant nutrition, irrigation sciences, forestry, food science, dietetics, nutrition, genetics, biology, education and international agricultural development, range management, veterinary medicine, biochemistry, agricultural business management, horticultural science, agricultural chemistry, entomology, plant pathology, and various specialties in the field of family and consumer sciences.

Students should consult the General Catalogue of the appropriate campus for detailed requirements in their field of interest, since not all majors are offered on each campus and variations in requirements exist among specific majors.

UNIVERSITY EXTENSION

RICHARD N. BAISDEN, *Director*

HARLEY W. MOWRY, *Program Coordinator*

ALICE L. ANDERSON, *Program Coordinator*

GLENN L. ANDERSON, *Publications Manager*

By a variety of methods the University of California Extension makes the resources of the University available to individuals and organizations throughout the state. Its aims are the intellectual and cultural development of adults, the dissemination of new knowledge resulting from teaching and research within the University; continuing professional, scientific, and technical training; development of special educational programs for public and private organizations; and education in public affairs.

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

SUMMER SESSIONS

Summer sessions are held each year on the campuses at Berkeley, Los Angeles, Santa Barbara, Davis and Riverside. Admission to the exercises of the summer sessions is limited to students who are currently in good standing on any campus of the University of California or at another college or university, to applicants under twenty-one years of age who are graduates of high schools or other secondary schools, and to qualified applicants over twenty-one years of age. Courses of instruction leading to baccalaureate and advanced degrees are offered.

■ STUDENT AFFAIRS STAFF

DONALD E. WALKER/*Vice-Chancellor for Student Affairs*

ROBERT S. LAWRENCE/*Dean of Students*

SPENCER C. OLIN, JR./*Coordinator of Academic Advising*

LYLE C. GAINSLEY/*Registrar and Admissions Officer*

GERALD B. SINYKIN, M.D./*Director of Student Health Services*

MRS. BETTE ABS/*Scholarships, Student Financial Aids, and Placement*

MRS. ELLENE J. SUMNER/*Director of Housing and Food Services*

MISS CORALIE TURBITT/*Director of Student Activities*

NEIL MALMBERG/*Student Activities*

JAMES DUNNING/*Assistant Director of Relations with Schools*

CECIL HOFFMAN/*Director of University Interfaith Center*

The office of Vice-Chancellor for Student Affairs at Irvine has been established for the purpose of coordinating all student services provided by the University. These include the functions of admissions and registration, academic advising, financial aids, housing and food services, recreation and sports, relations with schools, special services, student activities, and student health services.

It is assumed that students admitted to the Irvine campus are here to acquire an education, much of which will grow out of their personal contact with professors. It is a function of the office of the Vice-Chancellor for Student Affairs to facilitate,

wherever possible, this professor-student relationship, and to permit the student to pursue productively the academic and extra-curricular experiences associated with University life.

In essence, the function of the Student Affairs Office is to assist students in planning their individual and collective activities. The early years at Irvine offer the opportunity of establishing organizations, traditions, and a responsible student government. The entire staff looks forward to working with faculty and

STUDENT
AFFAIRS

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students in promoting the creative uses of whatever time each student may spend in the community of scholars which is the University of California, Irvine.

■ STUDENT STATUS

Students are classified as undergraduate and graduate. Undergraduates are classified as *regular*, *limited*, *special* or *accelerated high school students*. *Regular* students are undergraduates enrolled in the established curriculum of a school or college. Students holding a Bachelor's degree from the University or from another accredited institution who are candidates for a second Bachelor's degree are classified as regular undergraduates. Students in *limited status* are those with a Bachelor's degree who are not candidates for an advanced degree or those without a Bachelor's degree who have completed a substantial amount of college work and who by reason of special attainments may be prepared to undertake certain courses in the University toward a definite and limited objective.

Students over age 21 who have not had the opportunity to complete a high school program or who have not completed a substantial amount of college work and who by reason of special attainments may be prepared to undertake certain courses in the University toward a definite and limited objective, may be admitted for a specified time as *special* students.

No *special* or *limited* student may be a degree candidate. (See section on the admission of limited and special students.) *Accelerated high school* students are high school seniors recommended by their high schools to enroll in a limited University course concurrent with their final year of high school.

UNDERGRADUATE ADMISSIONS

Undergraduate admission requirements are uniform on all campuses of the University. Admission to the University entitles the student to attend the campus of his choice if the facilities are available. Applications will be processed and acted upon in only one Office of Admissions. Duplicate applications should not be filed.¹ Detailed information regarding procedures on change of campus choice after an application has been filed is included in the Undergraduate Admissions Circular.

■ APPLICATION

Application packets, including all the necessary forms and instructions, are available from the Office of Admissions. The filing period is as follows:

Fall Quarter	October 1 - March 1
Winter Quarter	May 1 - November 1
Spring Quarter	August 1 - February 1

The twenty days allowed for filing the application is not valid beyond the final date of the filing period.

■ APPLICATION FEE

A nonrefundable fee of \$10.00 must accompany each application. Checks or money orders should be made payable to The Regents of the University of California.

■ TRANSCRIPTS OF RECORD

Each applicant is responsible for requesting the graduating high school and each college attended to send official transcripts of record directly to the Office of Admissions. Those applying as entering freshmen should ask the high school to submit preliminary transcripts showing their complete record through the sixth semester and listing courses in progress. In every case, a final transcript including a statement of graduation will be necessary. Applicants for advanced standing should submit preliminary transcripts of all college or university work attempted to date, in addition to the high school record. All preliminary transcripts should include a statement of the work in progress. Final transcripts should show evidence of good standing or honorable dismissal.

■ NOTICE OF ADMISSION OR DEFERRAL

The length of time required for evaluation of an application and its accompanying transcripts of record will vary. Most applicants will have a written notice from the Office of Admissions by:

Fall Quarter — April 15
Winter Quarter — December 1
Spring Quarter — March 1

The Statement of Intention to Register which accompanies the notice of admission must be returned to the Office of Admissions in twenty days. The \$50.00 advance deposit on incidental fees is nonrefundable, but will be applied to the full incidental fee when the student registers. The notice of deferral is accompanied by a statement of deficiencies which lists the reasons for the deferral.

■ REAPPLICATION

An applicant who is not admitted, or who does not enroll for the quarter to which he is admitted, must reapply if he seeks admission to a subsequent quarter. Transcripts of records on file will be retained for six quarters.

■ ADMISSION TO FRESHMAN STANDING

In addition to the high school subjects required for admission to the University, certain preparatory subjects are recommended to give the student an adequate background for his chosen field

of study. Details of these recommendations will be found in the bulletin, *Prerequisites and Recommended Subjects*, which is customarily in the hands of high school and junior college counselors. A copy may be obtained from the Office of Admissions, or from the University Dean of Educational Relations, University Hall, University of California, Berkeley, California 94720. Applicants not eligible for admission to the University are advised to attend one of the California junior colleges to take courses applicable to the requirements of the college or school in which they wish to enroll.

■ REQUIREMENTS FOR CALIFORNIA RESIDENTS

(See p. 00 for Rules Regarding Residency Determination.) The freshman applicant must: 1) graduate from a California high school which has an acceptable course list on file with the Director of Admissions of the University; 2) complete satisfactorily the "a to f sequence" of subject requirements, plus elective units to total 15 entrance units (see below); 3) earn a grade point average of at least 3.0 (B) on the courses used to meet the subject requirements; 4) submit the following test scores from the College Entrance Examination Board:*

- a. Scholastic Aptitude Test—Verbal and Mathematics.
- b. Achievement Tests—English, Social Science/Foreign Language, Science/Mathematics.

SUBJECT REQUIREMENTS (the "a to f pattern")

- a. *History*, 1 unit

This must consist of 1 unit of United States history, or 1/2 unit of United States history and 1/2 unit of civics or American government.

- b. *English*, 3 units

These must consist of three units of English composition, literature, and oral expression.

- c. *Mathematics*, 2 units

These must consist of two units of subjects such as elementary algebra, geometry, trigonometry, calculus, elementary functions, matrix algebra, probability, statistics, or courses combining these topics. Arithmetic and such nonacademic subjects as shop mathematics and business mathematics are excluded.

*The 1967-68 CEEB Scholastic Aptitude and Achievement tests will be given on the following dates: Nov. 4, Dec. 2, 1967; Jan. 13, Mar. 2, May 3, Jul. 13, 1968. Arrangements to take the tests should be made with Educational Testing Service, P.O. Box 1025, Berkeley, Calif. 94710; or P.O. Box 592, Princeton, N.J. 08540.

d. *Laboratory Science*, 1 unit

This must consist of an eleventh- or twelfth-grade year course in one laboratory science. Both semesters must be in the same subject field.

e. *Foreign Language*, 2 units

These must be in one language. Any foreign language with a written literature is acceptable.

f. *Advanced Course*, 1 (or 2) unit(s)

This must be chosen from the following:

Mathematics, a total of 1 unit of second-year algebra, solid geometry, trigonometry, or other certified advanced courses; Foreign language, either 1 additional unit in the same foreign language offered under "e" or 2 units of another foreign language; Science, 1 unit of either chemistry or physics in addition to the science offered under "d."

ELECTIVES

Additional elective units to complete the minimum of 15 standard entrance units are also required.

Detailed information regarding the admission requirements will be found in the *Undergraduate Admissions Circular* available from the Office of Admissions.

■ ADMISSION BY EXAMINATION

The freshman applicant who is not eligible on the basis of the high school record and who has completed no college or university work may qualify for admission by examination. Acceptable scores of the tests given by the College Entrance Examination Board (see above), taken after the completion of the first half of the eleventh grade, may qualify a candidate for admission. See the *Undergraduate Admissions Circular* for details.

■ ADVANCED PLACEMENT EXAMINATIONS

Advanced placement credit of four quarter hours will be granted by the Office of Admissions for examinations completed during the eleventh or twelfth year of high school, where the composite score is 3, 4, or 5. Advanced placement may be granted by the dean of the school or college in which the student enrolls.

■ REQUIREMENTS FOR NON-CALIFORNIA RESIDENTS

(See page 00 for Rules Regarding Residency Determination.) The freshman applicant who does not claim California residency must: 1) graduate from a regionally accredited high school; 2) complete satisfactorily the "a-f sequence" of subject requirements (see above); 3) earn a grade point average of at least 3.4 (B+) on the courses used to meet the subject requirements; 4)

submit the following test scores from the College Entrance Examination Board:

- a. Scholastic Aptitude Test—Verbal and Mathematics.
- b. Achievement Tests—English, Social Science/Foreign Language, Science/Mathematics.

■ ADMISSION BY EXAMINATION FOR NON-RESIDENTS

The non-California resident who is not eligible on the basis of the high school record and who has completed no college or university work may qualify for admission by examination. Scores of the tests given by the College Entrance Examination Board, taken after the completion of the first half of the eleventh grade, may qualify a candidate for admission. See the *Undergraduate Admissions Circular* for details.

ADMISSION TO ADVANCED STANDING

■ REQUIREMENTS FOR CALIFORNIA RESIDENTS

The advanced-standing applicant who would have been eligible for freshman admission is eligible for admission to advanced standing upon presentation of a transcript of record indicating an overall grade point average of 2.0 in all college or university work attempted to date.

The advanced-standing applicant who would not have been eligible for admission as a freshman because of *subject deficiencies* may establish his eligibility by the completion of course work in the deficient area(s) and the maintenance of a grade point average of 2.0 or better. The advanced-standing applicant who would not have been eligible for admission as a freshman because of *scholarship deficiencies* may establish his eligibility by completing a minimum of 84 quarter hours of transferable course work at an accredited college or university with an overall grade point average of 2.4 or better. The advanced-standing applicant who would not have been eligible for admission as a freshman because of both *subject and scholarship deficiencies* may establish his eligibility by completing a minimum of 84 quarter hours of transferable course work at an accredited college or university with an overall grade point average of 2.4 or better, and the removal of the deficiencies in subject requirements. High school subject deficiencies can be waived in an amount not exceeding two high school units.

■ REQUIREMENTS FOR NON-CALIFORNIA RESIDENTS

In addition to the regular advanced standing requirements cited above, a nonresident applicant for admission to advanced standing must have maintained a grade point average of 2.8 or better in college subjects attempted which are transferable. The nonresident applicant must have maintained a high school grade

point average of 3.4 or better, with no subject deficiencies, in order to qualify with less than 84 quarter hours of transfer credit.

■ TRANSFER CREDIT

The University grants unit credit for courses consistent with its curriculum that have been completed in colleges or universities accredited by appropriate accrediting agencies. As an integral part of the system of public education of California, the University accepts at full value approved transfer courses completed with satisfactory grades in public junior colleges of the state. Frequently, students who intend to complete their advanced studies at the University will find it to their advantage to complete the first two years of their college course in one of the many excellent California public junior colleges. However, after a student has earned 70 semester (105 quarter) units acceptable toward a degree, no further credit will be granted by the University for courses completed at a junior college. University of California Extension courses bearing numbers prefixed by X, XB, XD, XI, XL, XR, XSB, XSC, XSD yield credit toward the Bachelor's degree, and are rated on the same basis as courses taken in residence at any accredited collegiate institution. The decision regarding the acceptability of extension courses taken at an institution other than the University rests with the Office of Admissions. The decision regarding the applicability of such course work in satisfaction of degree requirements rests with the faculty of the particular school or college in which the student plans to enroll.

Students who transfer from a four-year institution and who have met the general breadth requirements of that institution will be considered to have met the college requirements 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 will be considered to have met the college requirements of UCI. Students who, upon transfer, have not completed these breadth requirements, may elect to complete those in progress at the institution from which they transfer *or* those at UCI. Students transferring to UCI with advanced-standing credit from an institution on the semester system may, in general, determine the course equivalency of their transfer work by equating 2 courses at the semester institution with 3 courses at UCI.

■ INTERCAMPUS TRANSFER

An undergraduate student who is registered on any campus of the University, or who was previously registered in a regular session of the University and has not since been registered at

another institution, may apply for transfer to another campus of the University by filing the appropriate forms on the campus where he was last registered in regular session. The intercampus-transfer application form and an application for transcript of record may be obtained from the Office of the Registrar and must be filed within the stated periods for filing applications. A \$10.00 application fee must accompany applications for intercampus transfer.

■ **ADMISSION TO LIMITED STATUS**

The applicant for admission to limited status must be clearly eligible and meet all the admission requirements of a regular advanced-standing student. The limited student is enrolled for a specified period of time determined at the time of admission. Those who seek eventual admission to regular status in a professional school are enrolled in that school, or in the College of Arts, Letters and Science. Those who have specific need or interest will be enrolled in the school or college most concerned with the courses they wish to pursue. The dean of the school or college in which they are enrolled is responsible for the specified program of courses and for the maintenance of an academic record which may be specified when the program is approved. Any deviation from the planned program or any scholarship deficiency incurred while pursuing it will result in the cancellation of a student's limited status and will render him subject to dismissal. No student will be admitted to limited status for the purpose of raising a grade point average to qualify for admission to the University as either an undergraduate or graduate.

■ **ADMISSION TO SPECIAL STATUS**

The applicant for admission to special status may be admitted upon the approval of the dean of the school or college in which he seeks to enroll. Special students may enroll only in courses specified by the dean of his school or college. Special status is subject to review each quarter by that dean. Students with no particular degree plans or goals should consider course offerings of University Extension. No student will be admitted to special status for the purpose of making up requirements for admission to the University as a regular student.

■ **ADMISSION AS A CANDIDATE FOR A SECOND BACHELOR'S DEGREE**

The candidate for a second Bachelor's degree must meet all the requirements for admission to advanced standing. His status will be that of a *regular* student.

ADMISSION OF FOREIGN STUDENTS

■ APPLICATION

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, 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.

■ ENGLISH PROFICIENCY

An applicant from another country whose native language is not English will be admitted only after demonstrating that his command of English is sufficient to permit him to profit by instruction in the University. Foreign students whose schooling has not been in English must take the Test of English as a Foreign Language (TOEFL). Arrangements to take the test may be made by writing directly to TOEFL, Educational Testing Service, P.O. Box 592, Princeton, New Jersey 18540, U.S.A. Results of the test should be forwarded to the Office of Admissions on the campus where the student plans to enroll.

■ LANGUAGE CREDIT

A student from a country where the language is not English is given college credit in his own language and literature only for courses satisfactorily completed in his country at institutions of college level, or for upper division or graduate courses taken in the University of California, or in another English-speaking institution of approved standing.

ADMISSION TO GRADUATE STATUS

Students seeking admission to graduate status on the Irvine campus must hold a Bachelor's degree or its equivalent from an institution of acceptable standing. The Dean of the Graduate Division and the department of specialization evaluate applications for admission in terms of scholastic qualifications and formal preparation for the graduate field of study. Students who do not desire to become candidates for higher degrees must meet the same admission requirements as those who are prospective candidates for degrees.

Application forms for admission to graduate status are available upon request from the *Office of Graduate Admissions*, University of California, Irvine, California 92664. For applicants residing in the United States, applications must be on file no later than July 1 for the fall quarter, 1967, December 1 for winter quarter, 1968, and February 15 for spring quarter, 1968.

Applicants interested in financial support should apply not later than June 15 (November 1 for winter quarter, 1968, and January 1 for spring quarter, 1968.)

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. *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 official 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.

Each application must be accompanied by a \$10.00 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 the additional late registration fee of \$10.00. In cases where students have work in progress by the deadline dates given above, final transcripts covering such work must be received before registration may be permitted. Applications of such students will be considered on an individual basis and special late registration dates may be assigned.

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

For further information regarding the Graduate Division please refer to the *Graduate Bulletin*.

■ **READMISSION**

All students who are not enrolled for any quarter or portion of a quarter must apply for readmission. The readmission of students who were dismissed for any reason, or whose withdrawal was conditional in any way, will require the approval of the Dean of their School or College.

■ **ADDITIONAL POLICIES RELATING TO ADMISSION
RULES REGARDING RESIDENCY DETERMINATION**

Legal residence is a combination of actual physical presence in the state and demonstrable intention to make California the permanent home. New and returning students must complete a Statement of Legal Residence at the time of registration. Resident status is determined by the Attorney in Residence Matters. Where an incorrect classification as a resident is the result of a deliberate falsification or concealment of facts, the student will be subject to University discipline and will be legally liable for non-resident fees which would have been assessed if the residency classification had been correct initially. Each student is responsible for making sure he is at all times properly classified as a resident or non-resident of California. If he is in doubt and seeks clarification he should correspond with the Attorney in Residence Matters, 590 University Hall, University of California, Berkeley, California 94720.

■ **MEDICAL AND PHYSICAL EXAMINATIONS**

Each new student and each student returning to the University after an absence of two or more quarters is required to obtain health clearance before enrollment may be completed. Each such student must present a certificate verifying successful vaccination against smallpox within three years prior to registration, a report of a tuberculosis skin test, and recent tetanus immunization. In addition to the medical and physical examination required of new and returning students, students in certain curricula may be required to complete additional examinations and supplementary immunizations.

REGISTRATION

New and reentering students receive instructions regarding registration with their notice of admission or in a separate mailing. The dates of orientation and registration are listed in the calendar on page iii of the catalogue. The official schedule of classes is available prior to registration each quarter. Registration is not final and official until all steps have been completed, including the payment of fees. Each student is responsible for the courses in which he is enrolled each quarter. Consult the *Student Academic Handbook* for additional details regarding registration and enrollment.

■ COURSES AND CREDIT

A student's work load is stated in terms of courses. Since emphasis at Irvine is upon the acquisition of competence, knowledge, intellectual integrity, and creative power rather than the taking of formal course work, fulfillment of a requirement stated in terms of courses should be construed to mean acquisition of the abilities equivalent to those ordinarily acquired in a formal course. A student normally carries four courses each quarter. He may carry fewer than three or more than five with the permission of his dean.

■ CREDIT BY EXAMINATION

A student in good standing may obtain credit for courses by taking special examinations at stated intervals. Lists of courses offered for credit by examination are available from the dean of each division within each school or college. Some courses are offered for credit by examination on a pass/not pass basis. Others are offered on a letter grade basis.

■ GRADING AND SCHOLARSHIP REQUIREMENTS

The quality of scholarship is reported in one of the following grades: A, excellent; B, good; C, fair; D, barely passing; F, not passing; I (incomplete), undetermined; P (see section on Pass/Not Pass Option), pass. Other symbols which may be used in recording a student's work are: NR, no record J6, indicating a two- or three-quarter course in which no final grade is assigned until the end of the year. Grade points are assigned as follows: A-4, B-3, C-2, D-1, F-0, Incomplete-none, P-none. Letter grades, A to F, are final when filed by the instructor on the course report at the end of the quarter. The grade of Incomplete assigned when the student's work is incomplete because of circumstances beyond his control will be converted to a letter grade when the student has completed the required course work. An incomplete grade must be converted before the end of the student's next quarter in residence.

■ PASS/NOT PASS OPTION

In order to encourage students to venture into courses when they might otherwise hesitate because they are uncertain about their aptitude or preparation, students are allowed to enroll in certain courses in areas beyond their own area of concentration on a pass/not pass basis. A decision so to enroll must be made at the beginning of the course and cannot be altered. A student who fails such a course will receive a grade of NP, although the failure will not be counted in his grade point average. A student who makes a grade of C or better will have the grade recorded as P. He will receive credit, but again the grade will not be

counted in his grade point average. A student in good standing may take an average of one course each quarter on the pass/not pass option. A student enrolled in each of twelve quarters may take a maximum of twelve pass/not pass courses. A transfer student, accordingly, with only six quarters in residence, may take no more than six courses on a pass/not pass basis.

■ PROBATION

A student will be placed on probation if his overall grade point average falls below 2.0 at the end of any quarter. A student may also be placed on probation if he fails to make reasonable progress toward a degree. Under most circumstances a full-time student should meet all degree requirements within twelve quarters of college-level work. A student will be removed from probation if he achieves an overall grade point average of 2.0 at the end of his next quarter of attendance.

■ DISMISSAL

A student whose grade point average falls below 1.5 for any quarter or who after one quarter on probation has not achieved a grade point average of 2.0 is subject to dismissal. A student will be allowed to continue, on probation, if his record indicates that he is likely to achieve the required scholastic standing within a reasonable time. A student may also be dismissed for failure to make reasonable progress toward a degree. Ordinarily no student will be dismissed for academic reasons until he has completed three quarters of work at the University. However, a student whose academic deficiencies are serious and whose record indicates that he has failed to apply himself toward the correction of these deficiencies may be dismissed at the end of any quarter. Students who are dismissed may apply for readmission, subject to the approval of the dean of their school or college.

■ STUDENT FEES AND EXPENSES

Exact figures regarding student expenses at the Irvine campus of the University of California are difficult to predict. Costs will vary according to personal tastes and the financial resources of the individual student. Certain expenses are common to all students; others are optional and will vary considerably.

The following is intended only as a guide in computing the average annual expenses for three quarters of attendance.

Incidental fee.....	\$ 219.00
Associated Students fee.....	\$ 21.00
Room and board (20 meals per week)	
in University residence halls.....	1006.00
Books and Supplies.....	150.00

Personal expenses (laundry, clothing, recreation, transportation and miscellany).....	454.00
<hr/>	
Average annual total (California resident).....	\$1850.00
Nonresident Tuition (including incidental fee)..	981.00
Average annual fees (nonresident student).....	\$2831.00

■ **INCIDENTAL FEE**

The incidental fee is \$73.00 each quarter, for both graduate and undergraduate students. 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 registration and graduation, for all 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 \$50.00 advance deposit on the incidental fee is applied to the full fee when the student registers.

■ **ASSOCIATED STUDENTS ACTIVITIES FEE**

In the fall of 1966 the student body voted to establish a \$7.00 activity fee per quarter to be used by the ASUCI to provide social activities, lectures, forums, concerts, and other activities at either a reduced charge, or no charge, to UCI students. The fee is collected by the University for the Associated Students during registration each quarter.

■ **PARKING FEE**

A fee of \$2.00 per month is assessed for the parking of cars on the campus.

■ **TUITION**

Tuition is free to every student who has been a legal resident of the State of California for a period of one year immediately preceding the opening day of the quarter for which he seeks to enroll. Every student who has not been a legal resident for this period is classified as a nonresident and is assessed a non-resident tuition of \$267.00 per quarter, payable at registration.

■ **SUBJECT A FEES**

A fee of \$5.00 is paid by all students taking the Subject A examination prior to enrollment. A fee of \$45.00 is paid by all students enrolling in the Subject A course.

■ **MISCELLANEOUS FEES AND EXPENSES**

A schedule of miscellaneous fees and other information pertaining to expenses is available from the Cashier. All fees are subject to revision by The Regents of the University of California.

FINANCIAL AIDS

■ SCHOLARSHIPS

A limited number of scholarships are available for both entering and continuing students on the Irvine campus from funds donated by individual organizations, and by The Regents of the University. Awards will be made on a competitive basis with consideration given to the applicant's scholastic achievement, financial need, and character. In most instances the award will not meet the annual expenses of a full-time student. It is expected that each applicant will be able to draw upon other financial sources, such as savings, assistance from parents, loans and part-time employment.

Application forms and a descriptive circular may be obtained from the Office of Financial Aids, 1423 Library Building, University of California, Irvine, California 92664. Applications must be filed between December 1 and February 15, prior to the academic year for which the awards are to be made.

■ REGENTS' SCHOLARSHIPS

A number of four-year and two-year scholarships are made available to outstanding entering freshmen and to continuing and transfer students beginning their junior year in the University. Recipients will be chosen for demonstrated academic excellence and exceptional promise. Each will receive \$100 honorarium at the beginning of each academic year. Additional stipends to cover the full cost of required fees, board and room, books and supplies, and incidental expenses will be awarded, the amount to be based on individual financial need. Application requirements are the same as for other scholarships.

■ LOANS

The Regents of the University of California, various organizations, and philanthropic individuals have contributed funds toward the creation of several student loan funds. The money for this purpose is administered by the University in accordance with conditions stipulated by the donors and by the administrative regulations of The Board of Regents. Loans from these funds are generally of a short-term nature and ordinarily do not bear interest. In addition, long-term student loans are available to qualified undergraduate and graduate students. Regularly enrolled students in good standing or applicants for admission to regular status are eligible to apply. Applicants must demonstrate clear evidence of financial need by submission of the Parents' Confidential Statement of the College Scholarship Service. (This form may be obtained from the high school or junior college counselor.) Loan applications should be submitted by June 15 for funds to be

available for the fall and winter quarters and by December 15 for funds to be available for the spring quarter.

■ PART-TIME STUDENT EMPLOYMENT

Students wishing assistance in obtaining part-time employment during the academic year and summer vacation period may register with the Office of Financial Aids and Placement any time during the year. Both on- and off-campus jobs are available on an hourly basis in the fields of typing, clerical help, sales, care of children, housework, manual labor, tutoring, and some specialized kinds of work for qualified students. A listing is also available for board and room in exchange for work in private homes.

■ FEDERAL EDUCATIONAL OPPORTUNITY GRANTS

The basic purpose of this program is to assist students whose exceptional financial need would prevent their attending college. Grants range from \$200 to \$800 per year, but in every case must be less than one-half of a financial aids package, which may consist of a loan, a state scholarship, or other approved scholarship. Grants are renewable if financial need continues and good standing is maintained.

■ FEDERAL COLLEGE WORK-STUDY PROGRAM

The College Work-Study Program is sponsored by the Federal government and is designed to assist students from low and middle income families who cannot meet their college expenses. Students who qualify for this assistance are provided with employment during the school year and vacation periods.

■ FULL-TIME CAREER PLACEMENT

Candidates for a degree are invited to register with the Office of Financial Aids and Placements as early as possible during their last year in school. They will be assisted in obtaining information concerning employment opportunities; and arrangements will be made for them to meet with employers from business, industry, and government for on- and off-campus interviews.

LIVING ACCOMMODATIONS

The University maintains on-campus residences for 800 undergraduate single students in Mesa Court. Each residence accommodates fifty or sixty students and a resident assistant, providing an excellent 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; and

each also contains a large lounge, recreation room, and library. The new Mesa Court Commons will be completed in the fall of 1967 and will provide food service for all students living in Mesa Court. Rooms are furnished except for bedspreads, blankets, and study lamps. The residences close during the Christmas and spring recesses, although special arrangements may be made for housing during these periods.

The University has 200 one-, two-, and three-bedroom apartments on campus. Most of these apartments are furnished and all have carpeting, draperies, stoves, and refrigerators. The apartments are rented to married graduate and undergraduate students, single graduates, a few single undergraduates, faculty, and staff.

Off-campus room and apartment listings are available to students who desire to 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. Students who live in campus residences and apartments must have a signed housing contract and deposit on file with the Housing Office.

■ STUDENT HEALTH SERVICES

Among the services available to all regularly enrolled students on the UCI campus is a Health Service under the direction of a Physician Director. An out-patient dispensary staffed by registered nurses and technicians and local physicians will provide daytime care, including treatment, diagnosis, immunization, and necessary medical consultation. The dispensary includes a clinical medical laboratory, diagnostic x-ray, and physical therapy, as well as a small pharmacy. Medical specialty clinics are scheduled regularly, and appointments with the appropriate specialists may be arranged as required. Doctors are on call at all times for emergency care. Necessary hospitalization of students is carried out in nearby community hospital facilities. Additional health protection is provided to students by an insurance program covering hospitalization and surgery, illness, and accident. Coverage under this program extends to all times and places while a student is enrolled at UCI. All students who pay the incidental fee are entitled to these benefits.

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.

ACADEMIC ADVISING

Each student will be assigned an advisor and an academic dean. Students who express a preference will be assigned an advisor from a particular division, and his dean will be the dean of that division. Once assigned to an advisor and to a dean, the student will remain with that advisor and in that division unless he requests reassignment (for example, if he changes his field of interest). The student is encouraged to consult his advisor—or any member of the faculty. He must see his advisor prior to registration. However, the advisor does not dictate. The student, not the advisor, is responsible for meeting requirements and remaining in good academic standing.

The dean of the division to which a student is assigned has authority over the student's academic program. A student who wishes to drop or add a course, seeks a waiver of a graduation requirement, or has other questions relating to his academic progress, should see the dean of the division to which he has been assigned.

Freshmen and sophomores intending to enter the School of Engineering will be assigned advisors from the faculty of that School, but until admitted to it they will remain, in respect to academic matters, subject to the jurisdiction of one of the deans of the College of Arts, Letters, and Science.

Advisors meet with their advisees individually during Orientation Week in the fall, and these meetings are repeated periodically during the academic year. A student may remain with the same advisor throughout his stay at Irvine. Changes are possible when:

1. The student or his advisor believes a change would be desirable.
2. The student transfers to another division or department (unless he prefers to remain with his original advisor).
3. The advisor is unavailable for an extended period of time.

Any changes of advisor will be arranged by the student's divisional dean. If the student wishes to change his divisional or departmental area of concentration, he must obtain a petition from the Registrar. Upon filing the petition with the Registrar, the required changes in his records will be made.

Students are encouraged to consult their advisor prior to each enrollment period, although they are not obligated to follow their advisor's recommendations. It is the student's responsibility to satisfy the academic regulations of this campus. The long-range objective of the advising system is to enable the student to assume a maximum amount of responsibility for his own academic program and to make wise decisions himself.

■ RECREATION AND SPORTS

The Recreation Sports Program provides a variety of recreational sports and physical activities for all officially enrolled UCI students. The major activities of the program include: men's intramural sports, women's intramural sports, co-ed intramurals, and physical recreation. The Director of Recreation Sports is responsible for all recreational sports activities which utilize the physical education department's facilities and equipment. Faculty coordinators are responsible for the various segments of the total program. Student supervisors, under the leadership of faculty coordinators, supervise and conduct the daily sports competition. The booklet *Recreation Sports Program* is available to every new student at enrollment. Detailed information can be obtained in Room G-16, Campus Hall.

■ SPECIAL SERVICES

The Office of Special Services administers for the Irvine campus of the University the various Federal and State veterans' educational assistance programs; maintains liaison between the individual male students and their Selective Service Boards; acts in an advisory capacity to foreign students; and assists the physically handicapped with registration and enrollment procedures and other matters of need. Information regarding any of the above areas may be obtained from the Office of Special Services.

■ STUDENT ACTIVITIES

The Student Activities Office, located on the first floor of the Commons, is the center of activity for student organizations and student government. The Student Activities staff acts as advisors for student activities and assists students in becoming active in existing activities or in organizing new groups.

The University encourages participation in those activities which interest the student, in the belief that these activities can complement and/or supplement the educational experiences gained in the classroom. Students on the new Irvine campus have many opportunities to shape the character of campus life. Various organizations devoted to politics, spirit, special interests, service, and social activities have been established.

The first student government came into being in 1966-67 when a constitution was adopted by a vote of the students. The first election for officers took place during the winter quarter and resulted in a varied program of activities for members of the student body. The ASUCI Senate acts as the legislative body of the student government and one-half of its membership will be elected at the end of the fall quarter.

The elected student officers of the ASUCI have had the unique opportunity of participating in Academic Senate and all-campus

committees during their first year and are expected to play an important part in the further development of the Irvine campus. The Student Activities Office is located in Room 1014, Commons.

■ UNIVERSITY INTERFAITH FOUNDATION

The University Interfaith Foundation is a cooperative effort of the major American religious faiths which serve the university community. These groups work together to provide a lounge, library, seminars, service opportunities, and speakers, as well as offering the worship and fellowship of the individual faiths. Counseling is available for problems in value-setting and decision-making, as well as for religious needs. Eight chaplains (two of them full-time) offer their services to the students, faculty, and staff of the university. Since most of these people commute, the programs of the Interfaith Foundation are available to the religious groups in the cities from which the campus community comes. The Executive Secretary of the Interfaith Foundation coordinates the activities of all religious organizations on campus.

■ BUSINESS AND FINANCE

L. E. COX/*Vice-Chancellor, Business and Finance*

JAMES G. WILSON/*Business Manager*

ROBERT G. DAVIS/*Accounting Officer*

EARL F. GRAHAM/*Construction Manager*

ROBERT W. HEAVEY/*Chief of Police*

RALPH O. LAUE/*Personnel Director*

EARL B. LUDWICK/*Purchasing Agent*

JOHN F. MCGERVEY/*Budget Analyst*

C. O. REINHARDT/*Physical Plant Manager*

COULSON TOUGH/*Campus Architect*

The Office of the Vice-Chancellor, Business and Finance, is responsible for planning, developing and maintaining policies and procedures for the business and financial controls for the campus.

This office formulates long-range plans to meet administrative organization requirements of the campus, establishes procedures for safeguarding University assets and funds, and insures that authorized budget procedures are followed in all departments. Plans are developed here for maintaining the Physical Plant and insuring that security measures are provided. The administration of all matters related to planning, programming and construction of facilities are the responsibility of the Business and Finance Office.

Functions involved to assist in administering this varied program include accounting, budgeting, architecture, engineering, construction, security, purchasing, personnel administration, communications and related activities.

The Office of the Vice-Chancellor, Business and Finance, provides a substantial portion of the administrative support for the campus with a viewpoint of developing business and finance programs compatible with the campus objectives of instruction, research and public service.

■ PUBLIC AFFAIRS OFFICE

H. BRADFORD ATWOOD/*Assistant to the Chancellor and Public Affairs Officer*

WAYNE A. CLARK/*Public Information*

D. D. DICKINSON/*Gifts and Endowments*

The Public Affairs Office on the Irvine campus has three general and several special areas of responsibility. Its general functions are those of public information, publications and community relations. As Assistant to the Chancellor, the Public Affairs Officer has supervision of these functions as well as special responsibility for gifts and endowments, university relations, alumni relations, public ceremonies, the University Centennial Celebration, campus tours, the Speakers' Bureau, and liaison with the support organizations: The Friends of UCI, Friends of the UCI Library, University Gallery Associates, UCI Town and Gown, Big I Boosters, and the UCI Public Relations Advisory Council.

■ OFFICE OF THE CHANCELLOR

MRS. ELOISE KLOKE, *Assistant to the Chancellor*

The Office of the Chancellor has an open door policy for students, who are welcome to visit the office and consult with the staff.



The University Administration

The organization and government of the University is entrusted under the State Constitution, to a corporate body, The Regents of the University of California. The Board of Regents is composed of twenty-four members, sixteen appointed by the Governor of California for sixteen-year terms and eight who are members because of the offices they hold. These *ex officio* members are the Governor, the Lieutenant-Governor, the Speaker of the Assembly, the President of the State Board of Agriculture, the President of the Mechanics' Institute, the President of the Alumni Association, the State Superintendent of Public Instruction, and the President of the University. The Regents have "full powers of organization and government, subject only to such legislative controls as may be necessary to insure compliance with the terms of the endowments of the University and the security of its funds."

The President of the University is the executive head of the University in all its departments and on all its campuses. He is appointed by The Regents and is directly responsible to them.

Each of the nine campuses of the University has a Chancellor as its chief administrative officer. The Chancellor is responsible for the organization and operation of the campus, including academic, student, and business affairs. The President has delegated substantial additional authority to the Chancellors, including appointment of faculty, department chairmen, directors of local instructional or organized research units, and certain other personnel.

THE UNIVERSITY


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The Academic Senate, consisting of the faculty and certain administrative officers, participates in the administration of academic matters. The Senate determines conditions for admission of students, and for granting certificates and degrees. It authorizes and supervises all courses of instruction in the academic and professional schools and colleges, and exercises general supervision of the discipline of students.

A Brief History

The promise of a University of California is contained in the State's Constitution, drafted in Monterey in the gold rush year of 1849. California was admitted to the Union the following year, but almost twenty years were to pass before the hope for a public university was realized.

Impetus for the building of a university came from private citizens and the federal government as well as from the State. A forerunner of the University of California was the Contra Costa Academy, established in 1853 in downtown Oakland by a group of churchmen led by the Reverend Henry Durant. In 1855 this institution was incorporated as the College of California and plans were made to purchase a new site north of Oakland.

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 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.

The University Today

From its beginnings in Berkeley, the University of California has grown to include eight additional campuses at 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.

Under contract with the Atomic Energy Commission, the University operates two off-campus installations for atomic research: one at Livermore, a component of the Lawrence Radiation Laboratory, and the other, the Los Alamos Scientific Laboratory, at Los Alamos, New Mexico. Other major research installations are located at Mount Hamilton (the Lick Observatory), White Mountain (high altitude research), Hat Creek (radio astronomy research), Bodega Bay (marine laboratory), Oakland (Naval Biological Laboratory), and Richmond (engineering and forest products research). Among nearly two dozen other principal field and research stations are: Antelope Valley Field Station, Los Angeles County; Blodgett Forest, El Dorado County; Philip Boyd Desert Research Center, Riverside County; Deciduous Fruit Field Sta-

tion, Santa Clara County; Frances Simes Hastings Natural History Reservation, Monterey County; Hopland Field Station, Mendocino County; and Kearney Horticultural Field Station, Fresno County.

Located in San Francisco are the affiliated Hastings College of Law and the San Francisco Art Institute. The California College of Medicine in Los Angeles became part of the University in 1965.

The student enrollment of some 80,000 is expected to increase to 100,000 by 1970. Nearly 85 percent of all students are residents of California. The remainder come from other states of the nation and from about 100 foreign countries.

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

The University performs many services in addition to its campus programs of instruction. It is the primary state-supported academic agency for research. Its 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.

A Chronology

- 1869/*The University* admitted its first students at the College of California site in Oakland while buildings were being erected on the permanent campus at Berkeley. Instruction began on the Berkeley campus in September, 1873.
- 1873/*The San Francisco Medical Center* began as the Medical Department of the University when the Toland Medical College was transferred to The Regents. The California College of Pharmacy was also acquired in 1873. The College of Dentistry was added in 1881, followed by the School of Nursing in 1917.
- 1906/*The Davis campus* was established as the University Farm. Davis was organized as a branch of the College of Agriculture in 1922. The School of Veterinary Medicine opened in 1948 and the College of Letters and Science in 1951. Davis became a general campus of the University in 1959.
- 1907/*The Riverside campus* was founded as the Citrus Experiment Station. The College of Letters and Science was added in 1954, and Riverside was designated as a general campus in 1959. The College of Agriculture was established in 1961.

- 1912/*The San Diego campus* began as the Scripps Institution for Biological Research at La Jolla. In 1925 the name was changed to the Scripps Institution of Oceanography. The School of Science and Engineering was established in 1959; San Diego was authorized as a general campus in 1958 and opened to undergraduates in 1964.
- 1919/*The Los Angeles campus*, originally the Los Angeles State Normal School, became part of the University as the Southern Branch. It was designated the University of California at Los Angeles in 1927. The School of Medicine (forerunner of the UCLA Medical Center) was authorized in 1946.
- 1944/*The Santa Barbara campus*, formerly Santa Barbara State College, became a part of the University as Santa Barbara College. It was authorized as a general campus in 1958.
- 1961/*The Santa Cruz and Irvine campus sites* were acquired, having been authorized by action of The Regents in 1957. Both campuses were opened to students in 1965.

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The photographs in this catalogue were taken by Judy Cohen (1, 8, 42, 70, 72, 96, 114, 140, 146), and Beth Koch (28, 168).

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