# UNDERGRADUATE 

FALL AND SPRING SEMESTERS, $1964-65$


## UNDERGRADUATE BULLETIN

FEBRUARY 15, 1964



## CONTENTS

INTRODUCTIONThe University of California9 The San Diego Campus
THE UNDERGRADUATE EDUCATIONAL PROGRAM
Lower Division Program
Upper Division Program
GRADUATE PROGRAMS
COURSES OF INSTRUCTION
Aerospace Engineering
Biology
Chemistry
Earth Sciences
Humanities
Language and Linguistics
Literature
Mathematics
Philosophy
Physics
UNDERGRADUATE ADMISSION REQUIREMENTS
General Information
Admission to Freshman Standing
Admission to Advanced Standing
Requirements for Out-of-State Applicants
Admission of Special Students
Admission to Limited Status
Admission of Applicants with Bachelor's Degree
Admission of Applicants from Other Countries
EXPENSES, HOUSING, AND FINANCIAL AIDS
Fees and Expenses
Scholarships and Fellowships
Loans
Employment
Veterans Affairs
Living Accommodations
Student Health Service
STUDENT LIFE
General Information
Cultural Activities
Social Activities
Student Government
Recreation and Athletics
Religious Activities
THE REGENTS OF THE UNIVERSITY
GENERAL ADMINISTRATIVE OFFICERS
SAN DIEGO CAMPUS

## UNDERGRADUATE

## ACADEMIC CALENDAR, 1964-1965

## FALL SEMESTER1964

## 1964

July 15, Wednesday Last day for filing applications and credentials for admission to undergraduate status for the fall semester with the Office of Admissions. Credentials received as late as this may not be evaluated in time for enrollment during the regular registration period.

Sept. 7, Monday Labor Day - an academic and administrative holiday.
Sept. 14, Monday Fall semester begins.
Sept. 14, Monday to Registration and orientation.
Sept. 18, Friday
Sept. 21, Monday Instruction begins.
Oct. 9, Friday For undergraduate students, last day to file petition to add or drop courses. After this date, upon written petition duly approved by the dean of the appropriate college or school, an undergraduate may discontinue attendance in a course, although without permission to drop the course from the study list. Normally " $F$ " will be assigned as the final grade for such discontinued courses.

Nov. 26, Thursday Thanksgiving holiday-academic and administrative holiday. Nov. 27, Friday

Nov. 26, Thursday to Fall recess.
Nov. 28, Saturday
Dec. 15, Tuesday Last day for filing applications and credentials for admission to undergraduate status for the spring semester with the Office of Admissions.

Dec. 21, Monday to Christmas recess.
Jan. 2, Saturday
Dec. 24, Thursday Christmas holiday - an academic and administrative holiday. Dec. 25, Friday
Dec. 31, Thursday New Year's holiday - an academic and administrative holiday. Jan. 1, Friday
Jan. 4, Monday Inistruction resumes.
Jan. 16, Saturday Instruction ends.
Jan. 18, Monday to Final examinations.
Jan. 27, Wednesday
Jan. 27, Wednesday Fall semester ends.

## 1965

SPRING SEMESTER1965
Dec. 15, Tuesday Last day for filing applications and credentials for admission to undergraduate status for the spring semester with the Office of Admissions.

Jan. 15, Thursday Last day for filing applications for readmission to undergraduate status with the registrar.

Feb. 1, Monday Spring semester begins.
Feb. 1, Monday to Registration and orientation.
Feb. 5, Friday
Feb. 8, Monday Instruction begins.
Feb. 22, Monday Washington's Birthday - an academic and administrative holiday.

Feh. 26, Friday For undergraduate students, last day to file petitions to add or drop courses. After this date, upon written petition duly approved by the dean of the appropriate school or college, an undergraduate studènt may discontinue in a course, although without permission to drop the course from the study list. Normally "F" will be assigned as the final grade for such discontinued courses.

April 12, Monday to Spring recess - an academic holiday. April 17, Saturday

April 16, Friday Administrative holiday.
May 29, Saturday Instruction ends.
May 31, Monday Memorial Day - an academic and administrative holiday.
June 1, Tuesday to Final examinations.
June 10, Thursday
June 10, Thursday Spring semester ends.

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## THE UNIVERSITY OF CALIFORNIA

## History

## THE BEGINNING

In 1868 the University of California was established, with the governor's signing of the Organic Act passed by the State Legislature. The following year the University opened its doors on the Oakland campus of the College of California. Five years later the University moved to Berkeley, when the first buildings were completed.

## TODAY

The University, currently serving the State of California with nine campuses Berkeley, Davis, Irvine, Los Angeles, Riverside, San Diego, San Francisco, Santa Barbara, and Santa Cruz - is composed of academic and professional schools and colleges, divisions, departments of instruction, museums, libraries, research institutes, bureaus, and foundations.

In addition to the educational facilities centered on its campuses, the University operates the University Extension and Agricultural Extension Service everywhere in the State where a public demand is apparent. Special instruction and research are carried on throughout the State, in other states, and in foreign countries.

## SCOPE

The University is continuing, as in the past, to keep pace with the growth of the State. Present campuses are being expanded; new campuses are in the planning stage. The University's steady increase in quality as well as in size has won it general recognition as one of the greatest universities in the country. The University of California provides a college education for all qualified students, without distinction of sex, creed, or race. It offers instruction in the arts, sciences, and literature, as well as fundamental training for many of the professions.

## Government

The government of the University is entrusted to a corporation, The Regents of the University of California, consisting of twenty-four members. Sixteen are appointed by the Governor; the others are members ex officio.

The Regents select a President of the University, who becomes responsible to The Regents for the proper administration of the University on all of its campuses. The President, in turn, recommends chief administrative officers (chancellors and provosts) for the campuses of the University, statewide vice-presidents, and administrative deans.

In line with full powers of organization and government granted by the State of California, The Regents are authorized to delegate to committees or to the faculty or to others, such authority or functions in the administration of the University as they may deem wise. Therefore, The Regents have created an academic administrative body called the Academic Senate.

The Academic Senate consists of the President, Chancellors, Vice-Chancellors, Vice-Presidents, Provosts, Deans, Directors, Registrars, University Librarians, and all professors and instructors giving instruction in any curriculum under the control of the Academic Senate. The Academic Senate determines the conditions for admission, for certificates, and for degrees (subject to the approval of The Regents).

The Senate also authorizes and supervises all courses of instruction in the academic and professional colleges and schools, and also recommends to the President all candidates for degrees.

The San Diego Division of the Academic Senate is the academic administrative body for the San Diego campus.

## Unwersity Extension

University Extension, with Northern and Southern Area headquarters in Berkeley and Los Angeles, makes available the resources of the University on a statewide basis to individuals and organizations. Extension programs are organized around the following educational aims:

1) the intellectual and cultural development of adults;
2) the dissemination of new knowledge resulting from teaching research activities within the University;
3) the continuing education of scientific, technical and professional personnel;
4) the development of special educational programs for public and private organizations and agencies; and
5) public affairs education through programs designed to aid adults in meeting their responsibilities as citizens.
A variety of methods are used to implement these aims: classes, discussion groups, correspondence courses, conferences, institutes, short courses, lectures, motion picture production, broadcast educational television, and vocational counseling and testing (Los Angeles only).

Veterans may use the educational benefits available to them under Federal and State laws to enroll in University Extension classes, provided the classes are part of their prescribed and recognized objectives approved by the Veterans Administration.

For detailed information, see the University Extension office on any campus of the University or at the following additional locations: 813 South Hill Street, Los Angeles, 90024; 1221 Fourth Avenue, San Diego, 92038; Room 15, Buena Park High School, 10th and Magnolia, Buena Park; San Francisco Extension Center, 55 Laguna Street, San Francisco, 94102.

## Summer Sessions

Summer Sessions are held each year on the campuses at Berkeley, Davis, Los Angeles, San Francisco, Santa Barbara. There are at present no formal entrance requirements, except that applicants must be considered by the faculty to be of sufficient maturity and intelligence to profit by attending the sessions. The courses of instruction are mainly of university level, and credit toward university degrees may be given to persons who meet the requirements imposed by the instructors in charge.

The Summer Session Bulletin is available in February of each year, upon request, from the Director of the Summer Session at each campus.

## THE SAN DIEGO CAMPUS

The San Diego campus of the University of California had its origins in the closing years of the nineteenth century when zoologists at Berkeley set out to establish a marine station on the Pacific.

A site at La Jolla was selected which in 1912 was made a part of the University of California and eventually grew to become the Scripps Institution of Oceanography.

When in the late 1950s the decision was made to establish a general University campus at San Diego, it was agreed to build with Scripps as a nucleus - to begin with a small and distinguished staff of outstanding scholars and to offer only graduate studies for a few years.

Now, after four years during which graduate degrees in the sciences have comprised the only offerings of the campus, the University of California, San Diego in 1964 is ready to open its doors to undergraduates and to offer them a basic curriculum which will allow them to go on to majors not only in the sciences but also in the humanities and social sciences.

The University of California, San Diego offers its beginning class an opportunity for intimate association with some of the greatest names in American scholarship. Among its faculty are thirteen members of the National Academy of Sciences and two Nobel laureates. Its graduate students are drawn from the upper ranks of the nation's finest colleges and universities and from institutions of comparable standing throughout the world.

The San Diego campus is situated on a site of more than 1000 acres that spreads from the sea front, where the Scripps Institution is located, across a large portion of adjacent Torrey Pines Mesa high about the Pacific. Much of the land is wooded with graceful eucalyptus; to the east and north lie mountains, to the west the sea.

Rapidly rising on Torrey Pines Mesa are the buildings that will house 27,500 students when, according to its master plan, the University of California, San Diego reaches its maximum growth in 1995. The campus will then consist of 12 interrelated colleges, each of which will enroll about 2300 students. Each college will offer a wide variety of curricula in both undergraduate and graduate programs. A student in any college will do most of his work in the college of which he is a member, but will do some work in other colleges.

The first of these colleges, the First College, will be in operation in 1964-65. Three major classroom-and-laboratory buildings will be ready for use. The following year, 1965, will see the completion of a fourth major building, a cafeteria, a student services building, undergraduate residence halls, and additional graduate student apartments.

Heir to a distinguished past, the University of California, San Diego faces with confidence the challenge of meeting the high standards of excellence of the University of which it is a part.

## The Community

The oldest city in California, San Diego is now the third largest, with a population of slightly more than one million in the metropolitan area.

A few miles east of San Diego lie the mountains, where skiing is available in the winter, hiking and camping the year around. East of the mountains the vast and
beautiful desert stretches to the Colorado River.
In the City itself are scores of public beaches, including those of Mission Bay, rapidly becoming one of the most attractive aquatic areas in the world.

Balboa Park in downtown San Diego, one of the largest in the nation, houses such activities as the Museum of Man, the Natural History Museum, and the world-famous San Diego Zoo.

In Balboa Park also is the Old Globe Theatre, a replica of an Elizabethan playhouse. Community theatre is offered there during the winter. During the summer, the Globe houses a Shakespearean Festival that is judged by competent critics as one of the best in the nation.

Theatre, opera, symphony, chamber music, art, sports - all are available in San Díego.

The University of California, San Diego lies near the northern city limits of the City and two miles north of the center of suburban La Jolla, the home of the internationally famous Scripps Clinic and Research Foundation and the Salk Institute for Biological Studies.

Much of the land on which the San Diego campus is rising has been given to the University by the citizens of San Diego. Included are the original 158 acres of the Scripps Institution site, the 60 acres on which the First College stands, and 456 acres of adjacent pueblo lands.

## The University Library

The Library of the University of California, San Diego consists of the General Collection, the Science and Engineering Library, the Scripps Institution of Oceanography Library, and the Biomedical Library. By the Fall of 1964 the Library will have 175,000 volumes and will receive 5,000 periodicals and othêr serial publications.

The General Collection will consist of a basic undergraduate library of 75,000 volumes and specialized graduate collections in most fields of the humanities and social sciences. There are concentrations of books in Hispanic fields and in literature, philosophy, linguistics, and economics. A major portion of the Library's Special Collections of rare and valuable books, including a rapidly developing Baja California Collection, has been donated by the Friends of the UCSD Library.

The Science and Engineering Library contains strong collections in aeronautics, astrophysics, atomic energy, chemistry, electronics, engineering, instrumentation, mathematics, missiles research, physics, and space sciences.

The Biomedical Library has been established to serve the Medical School and the health-related sciences. More than 10,000 volumes are being added per year to this Library located on the fourth floor of Building B.

The Scripps Institution of Oceanography Library has outstanding collections in oceanography, marine biology, and underseas technology, and also specializes in geology, geophysics, and zoology.

The General Collection and the Science and Engineering Library are housed in three floors of Building B, with the Reading Room and Circulation and Reference desks on the first floor. The hours are from 8 a.m. to 11 p.m. weekdays, 9 a.m. to 5 p.m. Saturdays, and 2 p.m. to 11 p.m. on Sundays. Libraries of the other campuses of the University of California are available to faculty and graduate students through interlibrary loan or direct borrowing.

## The Scripps Institution of Oceanography

The Scripps Institution was originally an independent biological research laboratory. It became an integral part of the University in 1912 and at that time was given the Scripps name in recognition of the interest and financial support of Miss Ellen Browning Scripps and Mr. E. W. Scripps. The scientific scope of its research has grown to embrace physical, chemical, geological, and geophysical studies of the oceans as well as biological studies. Continuing investigations are conducted of the topography and composition of the ocean bottom, of waves and currents, and of the flow of heat and interchange of matter between seawater and the ocean bottom or the atmosphere. Its own research ships have extended the geographic scope from the Institution's beach and the adjacent coastal waters to all of the world's oceans.

The educational program has grown hand-in-hand with the research program. Instruction is on the graduate level only and students are not usually admitted except as candidates for the Ph.D. Although there is a rapid rate of increase, there are only a few hundred persons currently active as marine scientists, of whom a significant portion are Scripps graduates. Their studies are marked by a high degree of interdisciplinary and international collaboration. Many nationalities are represented among the staff and student body.

The Institution has eight oceanographic research vessels. Their cruises vary from local, limited-objective trips to far-reaching expeditions designed to gather a variety of data on relatively unexplored tracks. In 1962 and 1963 two Scripps ships circumnavigated the globe in opposite directions and joined en route for seismic refraction studies of the earth's crust under the Indian Ocean. A third ship will make a cruise around the world in 1964.

The academic departments within the Scripps Institution are the Department of Oceanography and the Department of Marine Biology. There are about 30 faculty members of the ranks of Professor, Associate Professor, and Assistant Professor who teach in the two departments, in the First College, or in both. The remainder of the academic staff of the Institution consists of 90 research scientists; many of these have a regularly scheduled part in the instructional program.


## THE

## UNDERGRADUATE EDUCATIONAL

## PROGRAM

## LOWER DIVISION PROGRAM

The beginning student entering the University of California, San Diego, in the Fall of 1964 will be offered a new program which will, to some extent, be an educational experiment. The experience with this program will serve as a guide for revision of the lower division program and full development of the upper division program for 1965 and following years.

Before he goes on to specialization in a major academic field during his junior and senior years, each student will be required to demonstrate an acceptable level of knowledge in the humanities, social sciences, language, mathematics, and the physical and biological sciences. During his first two years, the student will find himself in class with others who plan to specialize in a field different from his own; these basic courses will present a real challenge to students whether they do or do not plan to specialize in that field.

Many students will reach the required level of basic knowledge through a set of recommended courses that will normally require approximately 80 percent of their total course hours during the first two years. (The remaining time can be applied to electives in anticipation of selection of a major field in the upper division.)

Students are encouraged to meet the common lower division requirements and the upper division major requirements as rapidly as they can. Most will be able to complete an undergraduate program in four years. However, they are not bound to fixed amounts of time or numbers of hours. They are encouraged to reach the required levels by making the fullest use of prior training and individual study. Students who demonstrate superior achievement and competence in an academic area will be offered advanced courses and individual-study programs providing them with an opportunity to complete degree requirements in fewer than four years.

Students of superior ability and achievement may obtain degree credit for any courses by passing special examinations. The nature of the examination depends on the subject; although usually the examinations will be written or oral, a department may select an alternate method of determining the degree of a student's competence. The examinations are prepared and administered by the department concerned under the general supervision of the Dean of the College.

A student who successfully passes an examination for degree credit without taking a course will receive credit for the course toward fulfilling his degree requirements. No limit is set on the maximum credit that may be earned by examination. Students who are capable of completing their bachelor's degree requirements in an accelerated program will be encouraged to select a graduate course in upper division electives. The student may also apply for admission to the graduate school after receiving a baccalaureate degree, thereby becoming a candidate for a graduate degree at an early age.

## Common Lower Division Requirements

The student may meet the minimum lower division requirements in the principal
to an understanding and appreciation of the current preoccupations in these fields. At the same time, the program will be designed both in its breadth and in its emphasis upon the modern view in these disciplines to constitute an appropriate terminal course for those students who will continue their studies outside the sciences.

The common requirement will be met by a three-semester sequence starting in the spring semester of the first year and consisting of four units the first semester, five units the second semester, and four units the third semester. Laboratory instruction will take place during the second semester of the sequence. The first semester will concentrate on the scales and scopes of natural phenomena and on mechanics and electricity and magnetism; and the second on thermodynamics, radiation and matter, atomic and nuclear structure, and the elements of chemical bonding. The third semester will cover the biology of the cell in terms of its chemical, anatomical, physiological, and hereditary characteristics. With examples chosen from a wide variety of plant and animal sources, emphasis will be placed on the characteristics common to all living cells and the points of divergence in structure and function.

## Prerequisites:

Mathematics preparation at the level of Mathematics 1 A is required for the entire sequence. Preparation to the level of Mathematics 1B should be achieved by the end of the first semester of the sequence.

## LANGUAGE

To be admitted to upper division standing, all students (including transfer students) must demonstrate ability to hold ordinary conversations and to comprehend ordinary written material in a major modern language (for 1964-1965, French, German, Russian, or Spanish). The student will have the opportunity to take the examination which tests this ability upon entrance to the University and at periodic intervals after entrance. A student who passes the qualifying examination will be granted up to 10 units of credit towards graduation, if he has not already earned credit by taking the language courses. By passing the language examination early, the especially gifted, industrious, or previously well-trained student may thus significantly advance his progress toward graduation or toward early specialization.

The normal preparation for the language examination will be the special language courses in the student's freshman year. It is expected that a majority of students will require about a year of course work to prepare for the examination, but some students will take less time and some more, because of differences in ability, industry, and previous language work in high school, on other campuses, or in extracurricular activities.

To assist the student in attaining the required language proficiency, the First College will offer four kinds of aid in its courses:

1) Self-instructional materials and equipment which the student can use to advance his proficiency at his own optimum speed.
2) A one-year program of small tutorial classes, conducted by native-speaking tutors. A student's assignment to a new tutorial class will be a measure of his increased proficiency; the classes will be recomposed each week to maintain homogeneity of class membership, permitting each class to be conducted at the highest level possible for each of its members.
fields of knowledge by taking a recommended set of courses. The prerequisites for these courses, except as otherwise indicated, are met by the general admission standards of the University.

The recommended courses are:

## HUMANITIES

The humanities requirement, a four-semester sequence of three units each semester, normally taken during the freshman and sophomore years, has the purpose of introducing the student to the Western cultural tradition. He will learn to interpret major literary, historical and philosophical documents: through weekly themes he will develop his ability to write expository prose.

The sequence will be divided chronologically into four phases beginning with the ancient world. Instruction will be given by lectures and discussions conducted by members of the departments of literature, history, and philosophy. Every theme will be discussed intensively in individual weekly conferences between the student and the instructor.

## Prerequisites:

The student must have given proof of reasonable competence in reading and writing English. A satisfactory performance on the University's "Subject A" test will constitute such proof.

## SOCIAL SCIENCES

The social sciences requirement, a two-semester sequence of three units each semester in the sophomore year, will offer to the student intensive instruction in the social sciences. The courses offered will not necessarily be the same each year, but will be selected (in 1965) from such fields as modern economics, experimental psychology, and political science.

## MATHEMATICS

The mathematics program is designed for the most effective instruction of students in the sciences as well as the humanities. Emphasis will be placed on stimulating the student to do independent work by means of honors classes and reading courses and allowing him to progress at a rate commensurate with his ability.

The common requirement will be met by a two-semester (six-units fall, four-units spring) sequence in calculus, analytical geometry, and linear algebra.

## Prerequisites:

Three and one-half years of high school mathematics including a minimum of two years of algebra, one year of plane and/or solid geometry and one-half year of trigonometry. A student without previous training in trigonometry will be offered a remedial course (without credit) Mathematics $A$, in the first six weeks of the fall semester.

## PHYSICAL AND BIOLOGICAL SCIENCES

This sequence will present those basic facts and viewpoints of physical science and biology necessary as background to further study in the sciences and necessary
3) Instruction by linguistic scientists about language and the learning of languages. This instruction is intended to serve the broad aims of general education as well as to assist the student in his own language study.
4) An extracurricular program (e.g., foreign movies, "language tables" for meals, language clubs) offering informal opportunities for the student to practice using the language he is studying.
In summary, the lower division program preparing a student for the common requirements is:

Freshman Year
Fall Semester:

| Humanities 1. | . The Ancient World | 3 units |
| :---: | :---: | :---: |
| Language $1^{*}$ | . Language Tutorial | 6 units |
| Mathematics IA | Calculus and Analytic Geometry. | 6 units |
|  |  | 15 units |
| Spring Semester: |  |  |
| Humanities 2 | Middle Ages and Renaissance. | 3 units |
| Language $2^{\circ}$ | Language Tutorial | 4 units |
| Mathematics 1B | Calculus and Analytic Geometry | 4 units |
| Physical Science | Classical Physics. | 4 units |
|  |  | $\overline{15}$ units |

## Sophomore Year

Fall Semester:
Humanities $3^{\circ \circ}$. ........................................................... . . 3 units
Physical Science 2.......... Quantum Physics and Chemistry....... 5 units
Social Science ${ }^{* *}$. ............................................................... . . 3 units
11 units ${ }^{\circ 0}$
Spring Semester:
Biology 1 . . . . . . . . . . . . . . . Cellular Biology . . . . . . . . . . . . . . . . . . . . 4 units
Humanities $4^{\circ 0}$. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3 units
Social Science ${ }^{0.0}$. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3 units
10 units $^{\circ 0}$ o

## UPPER DIVISION PROGRAM:

A student meeting the common requirements of the lower division will be admitted to the upper division. Transfer students meeting the general university requirements will also be admitted to the upper division. Upon admission, the student will select a major field of concentration. On the average, a student will be able to complete the requirements for the bachelor's degree with two years of upper division work. All students will also select, with the consent of a faculty advisor, courses outside the major intended to provide an area of coordinated study paralleling the major field. The nature of the elective program will vary for different students,

[^0]particularly for the transfer students who have not received the equivalent of the lower division program offered at the San Diego campus. The program offered on the San Diego campus in 1964 will lead to undergraduate degrees preparing students for a variety of careers and qualifying them for admission to professional schools, such as dentistry, law, and medicine, as well as admission to the nation's major graduate schools. Although the number of fields offered in 1964 is limited, the programs in each field will be complete in themselves; they are each designed to interact optimally with the other programs offered. Additional curricula will be added each year to lead rapidly to the full offerings of a major university.

Freshmen entering fall semester 1964 will, by their junior year, have the choice of the following majors:

Biológy.
Chemistry
Earth Sciences
English
Mathematics
Philosophy
Physics
A program for the major in Aerospace Engineering at the upper division level will be offered in 1965.

## Additional Major Fields:

Additional majors which will probably be offered in the First College within the next five years include the following:

## SCIENCE AND ENGINEERING

Applied Chemical Physics
Applied Electronics
Biochemistry
Pre-medical
HUMANITIES AND SOCIAL SCIENCE
Economics
History
Linguistics
Literature
Modern foreign languages
Psychology

## Junior College Transfers and Other Transfers

The University grants unit credit for courses appropriate to the curriculum in the University that have been completed in other regionally accredited colleges, junior colleges and universities.

As an integral part of the system of public education of California, the University accepts, usually at full unit value, approved transfer courses completed with satisfactory grades in the public junior colleges of the State.

Courses which are substantially equivalent to the required lower division courses may be accepted at the San Diego campus toward meeting the lower division requirements. In cases where transfer work is not substantially equivalent to the required lower division courses, upper division elective courses will be taken on the San Diego campus to fulfill any deficiencies which may exist.

After a student has earned 70 units acceptable toward a degree no further credit will be granted for courses completed in a junior college.


## GRADUATE

## PROGRAMS

## FIRST COLLEGE

The present graduate programs offered by the First College leading to the doctorate are:

Biology
Chemistry
Earth Sciences
Physics
In addition, graduate instruction is offered in mathematics, philosophy, and literature in anticipation of doctoral programs in these fields. Doctoral programs in several additional departments in the humanities, social sciences and aerospace engineering are being initiated.

Information regarding admission to the graduate programs offered by the First College is available from the Dean of the Graduate Division, University of California, San Diego. For additional information regarding the graduate programs, see the Graduate Announcement which is available from the Graduate Dean.

## SCRIPPS INSTITUTION OF OCEANOGRAPHY

The study of oceanography and marine biology at the University of California, San Diego is a graduate program; an undergraduate major is not offered in oceanography or marine biology. Students are not admitted at the undergraduate level to study oceanography or marine biology. Oceanography is the application of a basic science to the scientific exploration of the ocean. For this reason, it is essential that a thorough knowledge of a basic science must be mastered before undertaking specialized education in oceanography or marine biology.

Admission to graduate study in oceanography requires broad scientific and mathematical training and a baccalaureate degree with a major in science or mathematics. This preparation for graduate work may be completed on a campus of the University of California where appropriate undergraduate programs are offered, or in any other accredited college or university which offers a sufficient number and variety of appropriate courses.

A high school student interested in oceanography should take as much mathematics and science as possible in high school in addition to fulfilling University admission requirements. After graduating from high school, he should secure a bachelor's degree in science or mathematics, and then apply for admission to a graduate school of oceaṇography.

The graduate programs offered by the Scripps Institution of Oceanography are:
Marine Biology
Oceanography
Information regarding admission to the graduate programs in oceanography and marine biology is available from the Dean of the Graduate Division, University of California, San Diego. For additional information regarding the graduate programs, see the Graduate Announcement which is available from the Graduate Dean.

## COURSES OF

## INSTRUCTION

Fall and Spring Semesters, 1964-65

## Explanatory Note:

The credit value of each course in semester units is indicated for each semester by a number in parentheses following the title. A semester unit is one hour of the student's time at the University, weekly, during one semester, in lecture, or recitation, together with the time necessary in preparation therefore; or a longer time in laboratory or other exercises not requiring preparation. The semester in which the course is given is shown as follows: I, first semester (September to January); II, second semester (February to June); Yr., throughout the first and second semesters. Information concerning class hours will be found in the Schedule Of Classes published near the beginning of each semester.

## AEROSPACE ENGINEERING

## Lower Division Courses:

No lower division courses are offered in Engineering. Students who intend to major in Engineering are required to take the common lower division requirements.

## Upper Division Courses:

The upper division courses will emphasize high-temperature gas dynamics and related phenomena. The offerings will be concentrated in the fields of radiation gas dynamics, fluid dynamics, reacting gases, boundary layer flows, supersonic combustion and propulsion research. A more detailed description will be given in the Undergraduate Bulletin for 1965-66, which will be published about January 1, 1965.

## Graduate Division Courses:

See the Graduate Division Bulletin for a description of the graduate courses and faculty.

## BIOLOGY

## Lower Division Course:

Biology 1. Cellular Biology (4) II.
Lecture-4 hours.
Prerequisites: Mathematics 1A, 1B and Physical Science 1.
The biology of the cell in terms of its chemical, anatomical, physiological, and hereditary characteristics.

## Upper Division Courses:

The undergraduate program leading to a Bachelor of Arts in biology at UCSD will represent somewhat of a departure from that traditionally offered at many institutions. This departure is a reflection of the striking advances made in biology during the past few years and the prospects of revolutionary developments in the future. New and powerful methods, employing all the allied resources of chemistry,
physics, and mathematics, are now being used in a successful experimental attack on questions in biology that have defied answer for generations. Of equal importance, the new information has enabled biologists to reevaluate facts already known and to reformulate and strengthen theories already established.

To train the student in contemporary biology and enable him to take his place in future developments, regardless of his chosen field of specialization, the following program will be offered. All majors in biology, whether they go on to graduate study, medicine, teaching, agriculture, etc., will take the same basic sequence of courses. Beginning in the sophomore year and extending over a period of two and one-half years, the sequence will consist of cell biology, comparative, structural and functional biology exemplified by organisms ranging from viruses to man, and ecology and evolution. In the freshman year, the student will begin his training in physics, chemistry, and mathematics. Selective courses in these areas will continue to be taken throughout his undergraduate career. In the senior year, specialization can begin with the election of additional studies in particular areas, such as botany, zoology, genetics, physiology, biological oceanography, and marine biology.

The upper division courses in Biology will be described in the Undergraduate Bulletin for 1965-66, which will be published about January 1, 1965.

## Graduate Division Courses:

See the Graduate Division Announcement for a description of the graduate courses and faculty.

## CHEMISTRY

## Lower Division Courses:

The lower division courses in Physical Science are offered jointly by the Departments of Chemistry and Physics.

## Physical Science 1. Classical Physics (4) II. <br> Lecture-4 hours.

Prerequisite: Mathematics 1A and concurrent enrollment in Mathematics 1B. Scales and scopes of natural phenomena. Newtonian mechanics (statics, dynamics), planetary motion, special relativity. Electricity and magnetism (electrostatics and simple dynamic phenomena).

Physical Science 2. Quantum Physics and Chemistry (5) II.
Lecture -4 hours; laboratory 3 hours
Prerequisite: Mathematics 1B and Physical Science 1.
Thermodynamics; radiation and matter, quantum concepts, atomic structure and spectra, periodic table, atomic interactions and bonding.

Physical Science 3. Modern Structural and Physical Chemistry (4) I.
Lecture - 3 hours; laboratory 3 hours
Prerequisite: Physical Science 2.
Ionic bonds, water and aqueous solutions, covalent bonds, acids and bases, oxidationreduction, states of matter.

Physical Science 1, 2, and 3 constitute an integrated 3-semester physics-chemistry sequence, basic for students majoring in physical and biological sciences. The first two semesters, Physical Science 1 and 2, are complete in themselves, and the final semester, Physical Science 3, will not normally be taken by nonscience majors. The three semesters, respectively, deal with Classical Physics, Quantum Physics and Chemistry, and Modern Structural and Physical Chemistry.

## Upper Division Courses:

Upper division majors in chemistry will take courses that include physical chemistry, organic chemistry, and inorganic chemistry. There will be a special intensive course on the laboratory aspects of the science.

In addition, there will be room in the student's program for pursuing other objectives such as work in related sciences, advanced study in humanities, social sciences, and the arts, participation in advanced chemistry (graduate) courses, and research.

In addition to preparing students for careers in chemistry, both fundamental and applied, the undergraduate major is thought of as providing the basis for advanced work in chemistry and other sciences, such as biology, the earth sciences, and oceanography. The departmental boundaries at UCSD are not intended as barriers, and joint programs of study can be tailored to the individual student's needs.

The upper division courses in Chemistry will be described in the Undergraduate Bulletin for 1965-66 which will be published about January 1, 1965.

## Graduate Division Courses:

See the Graduate Division Announcement for a description of the graduate courses and faculty.

## EARTH SCIENCES

## Lower Division Courses:

No lower division courses are offered in Earth Sciences.

## Upper Division Courses:

The upper division courses in Earth Sciences will be described in the Undergraduate Bulletin for 1965-66, which will be published about January 1, 1965.

## Graduate Division Courses:

See the Graduate Division Announcement for a description of the graduate courses and faculty.

## hiUMANITIES

The courses in Humanities are offered jointly by the Departments of Literature, Philosophy and History.

Lower Division Courses:
Humanities 1. The Ancient World (3) I.

Lecture and discussion - 3 hours.
Documents of the Graeco-Roman and Judaeo-Christian traditions. Readings from the Bible, Homer, Greek drama, Greek and Roman historians and philosophers.

Humanities 2. Middle Ages and Renaissance (3) II.
Lecture and discussion -3 hours.
Prerequisite: Humanities 1.
Documents in literature, philosophy and history from the fall of Rome to the early 17th century.

Humanities 3, 4. (3, 3) I, II.
These courses, a continuation of Humanities 1 and 2, will be described in a later publication.

## Upper Division Courses:

The upper division courses in Humanities will be described in the Undergraduate Bulletin for 1965-66, which will be published about January 1, 1965.

## LANGUAGE AND LINGUISTICS

## Lower Division Courses

French 1. French (6) I, II.
Tutorial-3 hours. Self instruction-9 hours.
Linguistics lecture and reading - 3 hours.
Conversational and reading proficiency in everyday French is developed by modern self-instructional materials and in small tutorial classes with native speakers. Supplementary lectures in practical and theoretical linguistics.
French 2. French (4) I, II.
Continuation of French 1.
German 1. German (6) I, II.
Tutorial-3 hours. Self instruction-9 hours.
Linguistics lecture and reading -3 hours.
Conversational and reading proficiency in everyday German is developed by modern self-instructional materials and in small tutorial classes with native speakers. Supplementary lectures in practical and theoretical linguistics.
German 2. German (4) I, II.
Continuation of German 1.
Russian 1. Russian (6) I, II.
Tutorial-3 hours. Self instruction--9 hours.
Linguistics lecture and reading - 3 hours.
Conversational and reading proficiency in everyday Russian is developed by modern self-instructional materials and in small tutorial classes with native speakers. Supplementary lectures in practical and theoretical linguistics.
Russian 2. Russian (4) I, II.
Continuation of Russian 1.

Spanish 1. Spanish (6) I, II.
Tutorial-3 hours. Self instruction-9 hours.
Linguistics lecture and reading -3 hours.
Conversational and reading proficiency in everyday Spanish is developed by modern self-instructional materials and in small tutorial classes with native speakers. Supplementary lectures in practical and theoretical linguistics.
Spanish 2. Spanish (4) I, II.
Continuation of Spanish 1.
The demonstration of proficiency in one modern foreign language required for a Bachelor's Degree will, for students with two years of high school language training, usually be possible following the one year freshman language program. A student electing to continue the language of his high school preparation may meet the requirements in half a year. Students with three or four years of language preparation will, in most cases, demonstrate proficiency with little additional preparation and will then be encouraged to elect training in a different language or to choose electives in other fields.

## LITERATURE

## Lower Division Courses:

For lower division students the Department of Literature offers general introductory courses in which the important documents of post-Medieval Western Literature will be studied by genre; the novel; the drama; lyric poetry. Each genre will be treated in a separate semester course.
Literature 21 A . Introduction to Literature-The Novel (3) I.
Lecture and discussion -3 hours.
Prose fiction from the 17 th century to the present.
Literature 21 B . Introduction to Literature-The Drama (3) II.
Lecture and discussion -3 hours.
Shakespeare, Jonson, Racine, Molière, Congreve, Goethe, Kleist, Ibsen, Chekhov, Shaw, Strindberg, Sartre, Brecht.
Literature 21C. Introduction to Literature-Lyric Poetry (3) II.
Lecture-3 hours.
Not offered 1964-65.


## Upper Division Courses:

The upper division courses in Literature will be explained in the Undergraduate Bulletin for 1965-66 which will be published about January 1, 1965.

## Graduate Division Courses:

See the Graduate Division Announcement for a description of the graduate courses and faculty.

## MATHEMATICS

## Lower Division Courses:

Mathematics $1 \mathrm{~A}, 1 \mathrm{~B}$, and 2 constitute a 3 -semester sequence in Calculus and Analytic Geometry. This sequence is basic for students who intend to major in mathematics and the physical sciences. These students may elect to take an additional 3 -unit course selected from Mathematics 3, 4, or 5 in the second semester of their sophomore year. Those who do not elect a science major will only take Mathematics 1 A and 1 B .

Students with strong mathematical preparation and interest will be given an opportunity to take their work in mathematics in special sections which parallel the standard course but permit a deeper treatment and a stronger emphasis on logical and rigorous development.

## Mathematics A. Trigonometry, High School Review (0) I.

Lecture -3 hours.
Prerequisite: Three units of high school mathematics.
A non-credit course in trigonometry required of all students who have not taken at least one-half unit of trigonometry in high school. This course will be only six weeks in length.
Mathematics 1A. Calculus and Analytic Geometry (6) I.
Lecture-4 hours; recitation 2 hours.
Prerequisite: two units of high school algebra, one unit of plane and/or solid geometry and one-half unit of trigonometry.
Differential and integral calculus of functions of one variable: limit, continuity, derivative, differentiation of algebraic and trigonometric functions, applications. Definite integral, primitive function, fundamental theorem of the calculus. Elements of analytic geometry in the plane, conics, translation and rotation of axes. Elements of linear algebra: vectors, matrices, determinants, inversion of matrices (in two and three space).
Mathematics IB. Calculus and Analytic Geometry (4) II.
Lecture -3 hours; recitation 1 hour.
Prerequisite: Mathematics 1A.
Continuation of calculus of functions of one variable: Differentiation and integration of the logarithm, exponential function, hyperbolic functions and their inverses. Parametric and polar representations. Arc length, curvature, torsion. Techniques of integration. Applications of integration. Infinite series, Taylor expansion. Improper
integrals.
Mathematics 2. Calculus and Analytic Geometry (3) I.
Lecture -3 hours.
Prerequisite: Mathematics 1B.
Calculus of functions of several variables: Analytic geometry in three dimensions, equations of lines and planes, survey of quadric surfaces. Partial differentiation, total differentiability, Taylor's formula for functions of several variables; maxima and minima, Lagrange multiplier, transformation of coordinates; Jacobian, cylindrical and spherical coordinates. Multiple integration, volume and area of surfaces. Application to moments of inertia and center of mass.

Mathematics 3. Differential Equations (3) II.
Lecture- 3 hours.
Prerequisite: Mathematics 2.
Elementary methods, linear differential equations, systems of linear differential equations; Picard's method, solution by series, numerical methods.

Mathematics 4. Linear Algebra (3) I or II.
Lecture - 3 hours.
Prerequisite: Mathematics 1B.
Linear vector spaces, matrices, matrix algebra, determinants, systems of linear equations, linear transformations, reduction of matrices to canonical forms, quadratic and bilinear forms, characteristic values and vectors of matrices.

Mathematics 5. Introduction to Probability and Statistics (3) I or II.
Lecture-3 hours.
Prerequisite: Mathematics 1B.
Probability models; random variables and distribution functions, discrete distributions, continuous distributions; introduction to statistical inference, population sample, sample characteristics; testing statistical hypotheses; point estimation, interval estimation.

## Upper Division Courses:

This program will be described in the Undergraduate Bulletin for 1965.
Graduate Division Courses:
See the Graduate Division Announcement for a description of the graduate courses and faculty.

## PHILOSOPHY

Lower Division Courses:
Philosophy 21A. The Nature of Philosophy (3) I.
Lecture - 3 hours.
An inquiry into such perennial themes as: the nature of values in morals and in art; the principles of the moral life and the rational society; the nature of religious belief.

Philosophy 21B. The Nature of Philosophy (3) II.
Lecture-3 hours.
A continuing inquiry, but on such issues as: the nature and scope of human knowledge; the nature of truth and argument, of mind and of a world view; methods of inquiry.

Philosophy 21A-21B provides the student with a basic introduction to philosophic inquiry, as well as to the historical literature in which this inquiry has been carried on. Either course may be taken separately, although both will be lower division requirements for students who elect to major in philosophy.

## Upper Division Courses:

Prospective majors in philosophy may anticipate that upper division courses will be made available in the following areas:

The history of ancient, medieval and modern philosophy
Logic
Ethics
Recent and contemporary developments in Anglo-American and European currents of thought.
In addition, philosophy majors and other students interested in philosophy are strongly advised to provide themselves with a firm background in the humanities.

Further details of majors in philosophy, literature, and history will be given in the Undergraduate Bulletin for 1965-66, which will be published about January 1, 1965.

## Graduate Division Courses:

See the Graduate Division Announcement for a description of the graduate courses and faculty.

## PHYSICS

## Lower Division Courses:

The lower division courses in Physical Science are offered jointly by the Departments of Chemistry and Physics.

## Physical Science 1. Classical Physics (4) I.

Lecture-4 hours.
Prerequisite: Mathematics 1A and concurrent enrollment in Mathematics 1B. Scales and scopes of natural phenomena. Newtonian mechanics (statics, dynamics), planetary motion, special relativity. Electricity and magnetism (electrostatics and simple dynamic phenomena).

## Physical Science 2. Quantum Physics and Chemistry (5) II.

Lecture -4 hours; laboratory 3 hours
Prerequisite: Mathematics 1B and Physical Science 1.
Thermodynamics; radiation and matter, quantum concepts, atomic structure and spectra, periodic table, atomic interactions and bonding.

## Physical Science 3. Modern Structural and Physical Chemistry (4) I. <br> Lecture - 3 hours; laboratory 3 hours

Prerequisite: Physical Science 2.
Ionic bonds, water and aqueous solutions, covalent bonds, acids and bases, oxidationreduction, states of matter.

Physical Science 1, 2, and 3 constitute an integrated 3 -semester physics-chemistry sequence, basic for students majoring in physical and biological sciences. The first two semesters, Physical Science 1 and 2, are complete in themselves, and the final semester, Physical Science 3, will not normally be taken by nonscience majors. The three semesters, respectively, deal with Classical Physics, Quantum Physics and Chemistry, and Modern Structural and Physical Chemistry.

## Upper Division Courses:

With the physical science course of the lower division as a background, the systematic study of physics is taken up with special emphasis on modern topics, including some of their technological implications. Some instruction in the humanities and social sciences will continue. Course credits in contiguous fields such as mathematics, are required in the junior year, and are offered on an optional basis in the senior year.

In the junior year, the student will take courses in electricity and magnetism, atomic and nuclear physics, and laboratory work in atomic and nuclear physics. He will also elect courses in mathematics, humanities and social sciences, and continue training in a language.

In the senior year, the student in preparation for graduation, will concentrate on advanced courses in analytical mechanics, statistical physics, thermodynamics. He will also be encouraged to continue diversification of his training by selection of courses from optional lists of topics such as mathematics, solid state physics, elementary particle physics and biology.

## Graduate Division Courses:

See the Graduate Division Announcement for a description of the graduate courses and faculty.

## UNDERGRADUATE

## ADMISSION

## REQUIREMENTS

The admission requirements of the University are based on two principles:

- That the best assurance of success in the University is shown by high quality of scholarship in previous work.
- That the study of certain specified subjects will give the student both good preparation for the work of the University and reasonable freedom in choosing his field of specialization.
All communications concerning undergraduate admission should be addressed to the Office of Admissions, 2106 Building B, University of California, San Diego, La Jolla, California 92038.

For information concerning admission to the graduate division, see the Graduate Division Bulletin which is available from the Dean of the Graduate Division.

## GENERAL INFORMATION

## Application for Admission

Applications should be filed with the Office of Admissions, University of Califormia, San Diego. An application form will be supplied by the Office of Admissions upon request. The application must be filed between October 1 and July 15 for the fall semester and between March 1 and December 15 for the spring semester. Applicants are urged to file early in the application period.

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 required facilities are available there. Since applications will be processed and acted upon in only one Office of Admissions, applications directed to more than one campus serve no purpose and should not be filed.

If, after a student has filed his application, he wishes to register on a different campus, he should write to the Director of Admissions, 521 University Hall, University of California, Berkeley 94720 , indicating the campus where he filed his application, the campus where he now wishes to register, and the reason for his change. His records will be transferred to the campus he wishes to attend provided facilities are available there. Such requests must be received at least three weeks before registration.

## Application Fee

Each applicant for admission is required to pay a non-refundable fee of $\$ 5$ when an application is filed. Remittance by bank draft or money order payable to The Regents of the University of Califormia should be attached to the application.

## 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 where the application is on file. Transcripts from the last college attended should include a statement of good standing or honorable dismissal. A preliminary transcript should show work in progress.

## Notification of Eligibility

So that students may be informed as early as possible about eligibility, they are urged to apply early in the application period and request promptly to have transcripts of record sent to the Office of Admissions where the application is filed.

The time between receipt of an application by the Office of Admissions and notification to the applicant about his eligibility will vary. Students applying as first-semester freshmen should ask the high school to submit preliminary transcripts showing the complete record through the next-to-last semester before graduation and listing courses in progress during the final semester. Those applying after April 1 for the fall semester or after December 1 for the spring semester should not expect answers until at least four weeks after final transcripts reach the Office of Admissions. Those applying before these dates may receive notification somewhat more promptly.

Students applying for admission in advanced standing may expect notification about four weeks after final transcripts have been received. The receipt of preliminary transcripts may shorten this interval, and applicants for the spring semester should arrange for submitting of preliminary transcripts showing work in progress, since provisional admission may be possible.

## Failure to Register

An applicant who is not eligible for admission or one who has been admitted but does not register in the semester for which he applied, and who thereafter desires to attend the University, must submit a new application for admission with a $\$ 5$ fee. The new application will be acted upon in the light of current availability of facilities and current admission requirements.

## Subject A: English Composition

The University requires every accepted student to pass an examination in English composition (the Subject A examination) or to complete in college an acceptable course of at least 3 units in English composition with a satisfactory grade. Students who enter the University with credentials showing the completion elsewhere of acceptable college-level training in composition or a score of at least 600 in the College Entrance Examination Board Achievement Test in English Composition taken after completion of the eleventh grade are considered to have met the Subject A requirement. All other students are required to take the examination given by the University. Although it is not a condition of admission, it must be taken at the opening of the semester of first attendance if not taken previously. Students who neither pass the examination nor meet the requirement in one of the above ways will be required to take the non-credit course in English composition, for which a fee of $\$ 35$ is charged.

Students with Subject A deficiency are urged to remove the deficiency by taking an approved English Composition Course at a college or junior college in the summer before entering UCSD.

## Vaccination Certificate

Every new student and every student returning to the University after an absence of one or more semesters must present at the time of medical examination by the University Medical Examiners a certificate establishing the fact that he has been
successfully vaccinated against smallpox within the last three years. A form for this purpose is sent routinely to all new students. Vaccination should be completed before registration.

## 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 in another institution, may apply for transfer to another campus of the University by filing the proper forms on the campus where he was last registered. The intercampus transfer application forms and application for transcript of record forms may be obtained from the Office of the Registrar and must be filed with that.office by July 15 for the fall semester and by December 15 for the spring semester.

## Preparation for University Curricula

In addition to the high school subjects required for admission to the University, certain preparatory subjects are recommended for many University curricula to give the student an adequate background for his chosen field of study. Lack of a recommended high school course may delay graduation from the University. Details of these recommendations will be found in the bulletin, Prerequisites and Recommended Subjects, which is ordinarily in the hands of high school and junior college counselors and which may be obtained from an Office of Admissions or the University Dean of Educational Relations, 521 University Hall, University of California, Berkeley 94720.

All students should pursue a full program of academic subjects during their senior year in high school.

A statement of the requirements for the bachelor's degree is contained in the General Catalogue (Berkeley, 48 cents; Davis, 25 cents; Los Angeles, 50 cents; Riverside, 24 cents; Santa Barbara, 24 cents; residents of California must add 1 cent sales tax for the Davis, Riverside, or Santa Barbara catalogue and 2 cents for the Berkeley or Los Angeles catalogue) and in the Announcement of each school or college of the University. These publications may be obtained by writing to the Office of the Registrar on the campus where the school or college is located.

Graduates of California high schools who are not eligible for admission to the University are usually advised to attend one of the California junior colleges and take courses applicable toward the requirements of the college in which they wish to enroll in the University.

## ADMISSION TO FRESHMAN STANDING

An applicant for admission to freshman standing is one who has not registered in regular session in any college-level institution since graduation from high school.

If the applicant does not meet at the time of high school graduation the requirements given below for admission to freshman standing, he must qualify for admission to advanced standing. An exception to this regulation will be made only if the student's deficiency was the result of his having omitted one or more required high school subjects. Such a student can sometimes remove the deficiency during the summer; he should consult in advance the Office of Admissions on the campus where he expects to enroll.

If the applicant has registered in a junior college, a four-year college, a university, extension classes of college level, or any comparable institution since graduating from high school, he is subject to regulations governing admission in advanced standing, regardless of whether he completed any courses.

## Requirements for Admission to Freshman Standing

Applicants for admission to freshman standing must meet the requirements listed below. These requirements apply to California residents; special requirements for out-of-state applicants are given later.

## GRADUATION FROM AN ACCREDITED HIGH SCHOOL

An accredited high school in California is one that has been officially designated by the Board of Regents of the University as a school from which students will be admitted to the University primarily on the basis of their record of subjects completed and scholarship attained. The University publishes a list of accredited schools annually in September. Accreditation by the University refers to the college preparatory program of the high school and implies no judgment of other functions of the school. If the applicant comes from a high school that is not accredited, the Office of Admissions on the campus where he intends to register will, upon request, instruct him regarding the procedure he should follow. When residents of California have attended high schools outside California, the University determines acceptability of the high school records by consulting other accrediting agencies.

## SUBJECT REQUIREMENTS

For grades required in the following subjects, see Scholarship Requirements below.
a. History, 1 Unit

This must consist of 1 unit of United States history, or $1 / 2$ unit of United States history and $\frac{1}{2}$ unit of civics or American government.
b. English, 3 Units

These must consist of six semesters of English composition, literature, and oral expression, certified by the high school principal as University preparatory.

## c. Mathematics, 2 Units

These must consist of two semesters of algebra and two semesters of plane geometry, or an integrated two-year course covering the same material. Advanced algebra and trigonometry may be substituted for algebra, and trigonometry and solid geometry for plane geometry.
d. Laboratory Science, 1 Unit

This must consist of an eleventh- or twelfth-grade year course in one laboratory science certified by the high school principal as University preparatory. 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) Units

This must be chosen from one of the following:
Mathematics, a total of 1 unit composed of second-year algebra, solid geometry, trigonometry, or an advanced course for which trigonometry is a prerequisite.

Foreign language, either 1 additional unit in the same foreign language offered under $e$ or 2 units of another foreign language.

Science, l 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.

## SCHOLARSHIP REQUIREMENTS

An average grade of not less than $B$ is required in courses taken in the tenth, eleventh, and twelfth years used to meet the $a$ to $f$ subject requirements. (Grades in electives are disregarded.) Courses taken for subject credit in the ninth year must be passed with a grade of C or better. Grades are considered on a semester basis except from schools that give only year grades.

In determining the $B$ average, a grade of $A$ in one course will be used to balance a C in another, but an A grade may not be used to compensate for $\mathrm{D}, \mathrm{E}$, or F grades. Courses completed in the tenth, eleventh, and twelfth years in which a grade of D is received will not be counted in satisfaction of the subject requirement.

Courses taken in the tenth, eleventh, and twelfth years in which a grade of C or lower is received may be repeated to raise grades in an amount not to exceed 2 units of the $a$ to $f$ pattern, if approved by the principal of an accredited high school. Only the first repetition may be used to satisfy scholarship requirements, but additional repetitions are allowed to satisfy a subject requirement.

## Minor Deficiencies

The Admissions Officers have the authority and responsibility for waiving minor deficiencies when justified by unusual academic records or recommendations.

## Admission by Examination

Applicants who are ineligible for admission to freshman standing and who have not attempted college work subsequent to high school (except during a summer session between high school graduation and registration in the University) may qualify for admission by examination.

The University does not offer entrance examinations but accepts the results of examinations given by the Educational Testing Service for the College Entrance Examination Board.

To qualify by examination, the applicant must present scores in the Scholastic Aptitude Test and three Achievement Tests. The three Achievement Tests are to include English composition and one from each of the following two groups:

1. Social Studies and Foreign Languages.
2. Mathematics and Sciences.

The tests must be taken after completion of the first half of the eleventh grade. The first repetition of a test will be accepted, but the verbal and mathematics scores on the Scholastic Aptitude Test must be from the same sitting. The total score on the

Scholastic Aptitude Test must be at least 1000; the scores on the three Achievement Tests must total at least 1650 , and the score on any one Achievement Test must not be less than 500 .

An applicant who has graduated from an unaccredited high school may qualify by examination under the foregoing rules.

For admission of out-of-state applicants by examination, arrangements to take the tests should be made with the Educational Testing Service, P.O. Box 1025, Berkeley, California 94701, or P.O. Box 592, Princeton, New Jersey. The fees are to be paid to the Educational Testing Service. Scores will be regarded as official only if they are received by the Office of Admissions directly from the Educational Testing Service.
Test Dates
Saturday, March 7, 1964
Application Deadlines
Saturday, May 2, 1964
February 8, 1964
Wednesday, July 8, 1964
April 4, 1964
June 10, 1964
Applicants should arrange to take the tests as early as possible. The scores of an applicant who takes the tests in July may be reported too late for consideration for admission in the fall.

## ADMISSION TO ADVANCED STANDING

An applicant who has registered in a junior college, a four-year college, a university, extension classes of college level, or any comparable institution since graduation from high school is subject to regulations governing admission to advanced standing. The applicant may not disregard his college record and apply for admission to freshman standing.

## Requirements for Admission to Advanced Standing

Applicants for admission to advanced standing must meet the requirements listed below. These requirements apply to California residents; for special requirements for out-of-state applicants, see later pages.

The requirements for admission to advanced standing vary in accordance with the high school record of the applicant. All applicants, however, must present from the last accredited institution (a) a statement of good standing, and (b) an academic record with a grade-point average ${ }^{\circ}$ of C or better.

1. An applicant who was eligible for admission to the University in freshman standing may be admitted at any time he has established an overall grade-point average of C or better.
2. An applicant who was ineligible for admission to the University in freshman standing, but whose only deficiency arose from not having studied one or more of the required high school subjects, may be admitted when (a) he has satisfied, by appropriate courses, the subject requirements for admission to freshman standing, and (b) he has established an overall grade-point average of C or better. Exception: deficiencies in subject requirements will be waived in an amount not exceeding 2 high

[^1]school units if the applicant presents a minimum of 56 units passed with a gradepoint average of 2.4 or better. Subject deficiencies in excess of 2 units must be satisfied.
3. An applicant who was ineligible for admission to the University in freshman standing because of low scholarship or a combination of low scholarship and incomplete subject preparation (omission, or by grades of D or lower) may be admitted when (a) he establishes a minimum of 56 units passed with a grade-point average of 2.4 or better and (b) he satisfies the subject requirements for admission to the University in freshman standing except that subject deficiencies will be waived in an amount not exceeding 2 high school units.

## Credit for Work Taken in Other Colleges

The University grants unit credit for courses appropriate to the curriculum in the University that have been completed in other regionally accredited colleges and universities.

As an integral part of the system of public education of California, the University accepts, usually at full unit value, approved transfer courses completed with satisfactory grades in the 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 courses in one of the many excellent California public junior colleges. After a student has earned 70 units acceptable toward a degree (except credit allowed for military service and training) no further unit credit will be granted for courses completed at a junior college.

Extension courses taken at an institution other than the University may not be acceptable. The decision regarding their acceptability rests with the Office of Admissions.

## Minor Deficiencies

The Admissions Officers have authority and responsibility for waiving minor deficiencies when justified by unusual records or recommendations.

## REQUIREMENTS FOR OUT-OF-STATE APPLICANTS

It has been necessary to place some limitations on enrollment of applicants who are not residents of California, and therefore, only those of exceptional promise will be eligible for admission. The regulations below are designed to admit out-of-state applicants whose standing, as measured by scholastic records, is in the upper half of those who would be eligible under the rules for California residents.

## Requirements for Freshman Standing

## GRADUATION FROM AN ACCREDITED HIGH SCHOOL

For schools outside Califormia, regional or other accrediting agencies are consulted. The University makes the final decision regarding acceptability.

## SUBJECT REQUIREMENTS

The same subject pattern as for California residents is required.

## SCHOLARSHIP REQUIREMENTS

The scholarship requirements for in-state applicants apply to out-of-state applicants except that the average must be 3.4 instead of $\mathrm{B}(3.0)$. ( 1 unit of A counts 4 points; 1 unit of $\mathrm{B}, 3$ points; 1 unit of $\mathrm{C}, 2$ points; 1 unit of $\mathrm{D}, 1$ point; and units of E and F yield no points.)

## Admission by Examination

Out-of-state applicants who are ineligible for admission to freshman standing and who have not attempted college work subsequent to high school (except during a summer session between high school graduation and registration in the University) may qualify for admission by examination. The requirements for in-state applicants given earlier apply to out-of-state applicants except that the total score on the Scholastic Aptitude Test must be at least 1100 and the scores on the three Achievement Tests must total at least 1725. The score on any one Achievement Test must not be less than 500 .

## Requirements for Advanced Standing

In addition to the regular admission requiremențs, out-of-state applicants for admission to advanced standing must meet the following regulations.

## REQUIRED SUBJECTS AND SCHOLARSHIP

The applicant must have maintained a grade-point average of 2.8 or higher in college subjects attempted and acceptable for transfer credit.

The applicant is expected to have fulfilled the pattern of required high school subjects, if not before high school graduation then by having included in his college program the courses needed to remove any subject shortages. However, deficiencies in subject requirements will be waived in an amount not exceeding 2 high school units if the applicants present a minimum of 56 units passed with a grade-point average of 2.8 or higher. Subject deficiencies in excess of 2 units must be satisfied.

If the applicant did not have at the time of high school graduation an average of 3.4 or higher in courses satisfying the required subject pattern, he must present a minimum of 56 units passed with a grade-point average of 2.8 or higher.

## ADMISSION OF SPECIAL STUDENTS

Special students are students of mature years who have not had the opportunity to complete a satisfactory 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. No person under twenty-one years of age will be admitted as a special student, nor will an applicant be admitted directly from high school. Only cases of unusual merit will be considered. A personal interview is usually required before final action in any individual case can be taken.

Conditions for admission are assigned by the Admissions Officer and are subject to the approval of the dean of the college in which the applicant plans to study. Admission is for a specified time only and a prescribed scholarship average must be maintained.

An applicant for special status must ordinarily submit transcripts of record from all schools attended beyond the eighth grade. He may also be required to take the examination in Subject A.

The University has no special courses. A special student may be admitted to those regular courses for which, in the judgment of the instructor, he has satisfactory preparation. A special student will seldom be able to undertake the work of the engineering and professional colleges or schools.

An applicant will not be admitted to special status for the purpose of making up requirements for admission to the University as a regular student.

## ADMISSION TO LIMITED STATUS

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. Transcripts of record from all schools attended beyond the eighth grade must ordinarily be submitted. The applicant may also be required to take the examination in Subject A.

Conditions for admission are assigned by the Admissions Officer and are subject to the approval of the dean of the college or school in which the applicant plans to study. Admission is for a definite period, and a prescribed scholarship average must be maintained.

An applicant will not be admitted to limited status for the purpose of raising a low scholarship average.

## ADMISSION OF APPLICANTS WITH BACHELOR'S DEGREE

Ordinarily, an applicant with a bachelor's degree substantially equivalent to the bachelor's degree granted by the University of California should apply for admission

to graduate status. An applicant with a superior record may occasionally qualify as a student in limited status or, after a complete change of objective, as an undergraduate seeking a second baccalaureate. In either case, the previous scholarship record must be such as to indicate very strong probability of academic success. Admission is subject to the approval of the Admissions Officer and of the dean of the school or college in which the applicant plans to enroll.

## ADMISSION OF APPLICANTS FROM OTHER COUNTRIES

The credentials of an applicant for admission from another country in either undergraduate or graduate standing are evaluated in accordance with the general regulations governing admission. An 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 semester in which the applicant hopes to gain admittance. Doing so will allow time for exchange of necessary correspondence and, if the applicant is admitted, will help him in obtaining the necessary passport visa.

An applicant from another country whose native language is not English may be admitted only after demonstrating that his command of English is sufficient to permit him to profit by instruction in the University. An applicant's knowledge of English is tested by an examination given by the University. Admission of an applicant who fails to pass this examination will be deferred until he has acquired the necessary proficiency in the use of English.

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

A student who is outside the United States and applies for admission to the lower division of the College of Engineering must pass with satisfactory scores the College Entrance Examination Board Scholastic Aptitude Test (verbal and mathematics sections) and achievement examinations in English composition, physics, and advanced mathematics. If he does not present satisfactory scores in these tests he will not be able immediately to undertake courses in the College of Engineering even though he is admitted to the University. Arrangements to take the tests in another country should be made directly with the Educational Testing Service, P.O. Box 592, Princeton, New Jersey. The fee for these examinations should be sent to the Educational Testing Service, not to the University. The applicant should request that his scores in the tests be forwarded to the Office of Admissions on the campus where he plans to enroll.

The acquisition of health insurance is a condition of registration at the University of California for all foreign students except those in the United States on permanent immigration visas. Information about health insurance programs available will be sent to foreign students with the application for admission. For some campuses appropriate application forms will be included; on other campuses the application is a part of the registration procedure.

Each campus has an adviser to assist foreign students in all matters pertaining to their attendance at the University. It is urged that every student from another country, upon his arrival at the University, consult the foreign student adviser.


## EXPENSES, HOUSING

## AND

## FINANCIAL AIDS

## FEES AND EXPENSES

The exact cost for a student to attend the University of California, San Diego will vary according to personal tastes and financial resources of the individual. Generally the total expense for two semesters or a college year will average about $\$ 1,670$ for residents of California and $\$ 2,090$ for nonresidents.

It is possible to live simply and to participate moderately in the life of the student community on a limited budget. The best that University authorities can do to assist the student in planning his budget is to indicate certain and probable expenses.

## Incidental Fee

The incidental fee is $\$ 90$ each semester for graduates and undergraduates. This fee, which must be paid at the time of registration, covers certain expenses for use of library books; for recreational facilities and equipment; for registration and graduation; for all laboratory and course fees; and for such consultation, medical advice, and hospital care or dispensary treatment as can be furnished by the Student Health Service. No part of this fee is remitted to students who do not make use of these privileges.

## Miscellaneous Expenses

Books and stationery for a student average about $\$ 40$ per semester. Exact information on these items may be obtained by writing directly to the school or department. Students who fail to pass the required examination in Subject A must pay a fee of $\$ 35$ for the course in Subject A.

## Parking Fee

A parking fee of $\$ 5$ per year is required of students who park 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 more than one year immediately preceding the opening day of the semester during which he proposes to enroll. Every student who has not been a legal resident of the state for said period is classified as a nonresident and is subject to payment of a nonresident tuition fee. A student entering the University for the first time should read carefully the rules governing the determination of residence as quoted below so that he may be prepared in the event of nonresident classification to pay the required tuition fee. Every entering student and every student returning to the University after an absence is required to make a Statement as to Residence on the day of registration upon a form that will be provided for that purpose and his status with respect to residence will be determined soon after registration by the Attorney in Residence Matters.

The eligibility of a student to register as a resident may be determined only by the Attorney in Residence Matters. If the student is in doubt about his residence status, he may communicate with the Attorney in Residence Matters at 590 University Hall, University of California, Berkeley 94720.

Students classified as nonresidents are required to pay a tuition fee of $\$ 300$ each semester. This fee is in addition to the incidental fee. (Exemption from payment of the nonresident tuition fee may be granted to an unmarried minor whose parent is in the active military service of the United States and is stationed in California on the opening day of the semester during which the minor proposes to attend the University or to an unmarried minor child or spouse of a member of the University faculty.) Graduate students may have part or all of the nonresident tuition fee waived under certain conditions set forth in the Announcement of the Graduate Division.

## Rules Governing Residence

The residence classification of each student is determined in accordance with Section 244 of the California Government Code, Sections 23054, 23055 and 23057 of the California Education Code and the Standing Orders of The Regents. It is therein provided that a resident student is any person who has been a legal resident of the State of California for more than one year immediately preceding the opening day of the semester during which he proposes to enroll.

The attention of the prospective alien student is directed to the fact that he is a nonresident unless, in addition to the general residence requirements for tuition purposes, he has been admitted to the United States for permanent residence in accordance with all applicable laws of the United States. The attention of the prospective student who has not attained the age of 22 and whose parents are not California residents and the attention of the veteran who was not a resident of California at the time of his entrance into the Armed Forces is directed to the fact that presence in California for more than one year does not, of itself, entitle the student to classification as a resident.


Every student who is classified as a resident but who becomes a nonresident of California is obliged to notify the Attorney in Residence Matters at once. Application for a change of classification with respect to a previous semester will not be received under any circumstances.

A person incorrectly classified as a resident student is subject to reclassification as a nonresident. If the incorrect classification resulted from concealed facts or untruthful statements made by him, the student then shall be required to pay all tuition fees which would have been charged to him as a nonresident student. He shall also be subject to such discipline as the President of the University may approve.

## SCHOLARSHIPS AND FELLOWSHIPS

Information regarding undergraduate scholarships may be obtained from the Dean of Student Affairs. Students who maintain an excellent scholarship standing are eligible to make application. Awards are made on the basis of scholarship and financial need. Recipients of undergraduate scholarships must enroll for a minimum of 12 units a semester. Applications for scholarships for any academic year (July 1June 30) must be filed with the Committee on Undergradute Scholarships not later than the preceding February 1 by students already in attendance and by entering students. This date is subject to change. Application forms are available in the office of the Dean of Student Affairs beginning the last week in November.

Information about fellowships for graduate students may be obtained from the Dean of the Graduate Division, Room 2112, Bldg. B. Fellowships and graduate scholarships are ordinarily awarded as a mark of honor, on the basis of scholarship and not of need. The holders of fellowships or graduate scholarships are expected to devote all their time to graduate study and research in the University. Applications for fellowships and graduate scholarships must be filed with the Dean of the Graduate Division, San Diego, not later than February 15 prior to the academic year for which the award is sought. This date may be subject to change. For the latest information, applicants should consult the Office of the Dean of the Graduate Division.

## LOANS

All loans for both graduate and undergraduate students are initiated in the Office of Dean of Student Affairs. A few individuals and organizations have made contributions to student loan funds. These are administered by the University according to the wishes of the donors and are not usually available during the first semester of residence. The National Defense Education Act of 1958 is providing funds for granting loans up to $\$ 500$ per semester and to a maximum of $\$ 5,000$ per student. Prospective students and students in their first semester of residence may apply for the NDEA loans. The number of such loans available will depend upon federal allocation of funds. Repayment can be extended over eleven years after graduation or leaving the University. Loan applications must be submitted by July 1, in order to receive a loan for the fall semester. Small amounts for short periods may be obtained in less time.

## EMPLOYMENT

Many students who attend the University expect to earn a part of their expenses.

However, the undergraduate curricula are organized on the assumption that a student will give most of his time and attention to college studies. If possible, the student should avoid outside employment until he has become adjusted to his new environment, has established sound study habits, and is maintaining a good scholastic standing. By the end of the first semester the student should know the demands of University life and his own capabilities well enough to plan a program combining studies and work for subsequent semesters.

A few part-time jobs are available to students who can adjust their academic programs to the employers' needs. Usually class schedules must be arranged before referrals for employment can be given. Men with limited time or difficult schedules may often supplement their income by doing casual work in the library, the food service, or through miscellaneous jobs on the campus and in the community. Women students have some opportunities for work on the campus and for housework and babysitting in the community.

The Student and Alumni Placement Office, Room 7221, Bldg. B, assists students in finding part-time employment both on and off campus. No charge is made for this service. Personal interviews are necessary, as arrangements cannot be made satisfactorily by correspondence. Those wishing part-time work should register with the Student and Alumni Placement Office upon arrival on the campus.

Career placement services are available to terminating students, graduates, and alumni who have matriculated on one of the campuses of the University.

## VETERANS AFFAIRS

The Dean of Student Affairs assists students in becoming part of the life of the University and acts as liaison with certain veterans and veterans' dependents agencies, the Veterans Administration, the State Department of Veterans Affairs, and others offering veterans educational benefits. This office is located in Room 2116, Bldg. B. Offices of the United States Veterans Administration are located as follows:


Los Angeles Regional Office, 1380 South Sepulveda Boulevard, Los Angeles 25, California
San Francisco Regional Office, 49 Fourth Street, San Francisco 3, California.
Veterans wishing to enroll under the provisions of Public Law 550 ("Korea" G.I. Bill) should obtain from the United States Veterans Administration a Certificate for Education and Training and file it with the Office of Special Services upon completion of registration. These veterans must be prepared to pay all fees and educational costs at the time of registration, since education and training allowances are paid to the veteran by the Veterans Administration and the first monthly payment will normally be received 60 to 75 days after compliance with the above.

Information regarding educational benefits available from the State of California (CVEI) may be obtained from the State Department of Veterans Affairs by writing to P.O. Box 1559, Sacramento 7, California; or to Room 225, 542 South Broadway, Los Angeles 13, California; or to 515 Van Ness Avenue, San Francisco 2, California.

## LIVING ACCOMMODATIONS

At present there are a very limited number of living accommodations on and off campus for unmarried students. Applications for University housing must accompany the application for admission.

A limited number of student apartments are available on campus for women students. The cost shall be $\$ 225.00$ per student for each semester. Students are expected to purchase their food and prepare their own meals.

Arrangements have been made to house a limited number of men students in an off-campus apartment situated within easy walking distance, one-half mile from the campus. A University bus runs by the apartment every $\frac{1 / 2}{1}$ hour 5 days a week.

Room costs for these units are $\$ 260.00$ per student each semester. There shall be two assigned to a room, and one efficiency kitchen for every four students, who are expected to purchase and prepare their own food.

The Housing Office will assist others in finding suitable University-approved accommodations off-campus in the surrounding communities of La Jolla, Pacific Beach, or Del Mar for those students who cannot be housed on the campus.

These facilities consist of rooms, studios, apartments, or houses. Rates per month vary from about $\$ 50$ for a room to $\$ 100$ and up for an apartment. Students must call in person at the Housing Office to make arrangements for approved student housing. General information is available by mail from the Housing Office.

There are limited accommodations for married graduate students on the campus. These consist of 19 studios, 56 one-bedroom, and 31 two-bedroom newly-constructed apartments. These units are unfurnished except for stove and refrigerator. Rates per month are $\$ 75$ for the studio, $\$ 95$ for one-bedroom, and $\$ 105$ for two-bedroom apartments.

## STUDENT HEALTH SERVICE

Through an insurance policy, the University provides medical and hospitalization services for the student during the two-semester period of the year.

The student health service does not take the responsibility for the care of chronic physical defects or illnesses present at the time of entrance to the University.

## GENERAL INFORMATION

The first undergraduates at the University of California, San Diego in many respects will be real pioneers. They will be entering a new and growing general university campus without a formally structured plan for student organizations. Many student facilities are not scheduled for completion until the fall of 1965. Thus, until that time there will be no dormitories (see the section on Living Accommodations), cafeteria building, recreational facilities, or activities generally associated with student life found on other university campuses. It should provide a challenge to be a member of the first undergraduate student body. History will look back upon this class as initiating a great educational era.

## CULTUReAL ACTIVITIES

Stimulating and enlightening lectures by distinguished scholars and other famous individuals are given in Sherwood Hall in La Jolla and Sumner Auditorium on the campus. In addition, an All-University Concert Series, chamber music, and a film series are provided. For students, such activities are offered at a reduced rate or are free.

## SOCIAL ACTIVITIES

Arrangements will be made to provide campus dances, the number to be determined by the student body. The dances may be held at the beautiful clubs, motels, and hotels situated in and around San Diego. Plans can be made to provide a rich variety of other activities upon which tradition may be built.

## STUDENT GOVERNMENT

The affairs of the Associated Students of the University of California, San Diego will be directed by the first elected student officers, representing a cross-section of

the campus community. The University will encourage student self-government at the onset as a way of developing leadership abilities and responsible attitudes during the college years. A variety of student organizations of various types will be encouraged and will include academic honorary groups, service organizations, departmental and special interest clubs.

## RECREATION AND ATHLETICS

An adequate physical basis for intellectual life must be assured to each student. From the beginning, a strong emphasis will be placed upon recreation and intramural programs which provide basic instruction in a variety of vigorous activities, and opportunity for participation for all students, regardless of sex or physical ability. A wide range of aquatic activities is available - sailing, boating, swimming, waterskiing, and fishing are but a few activities which can be pursued at the University of California, San Diego on a year-round basis.

Students will have an opportunity to golf on the beautiful Torrey Pines course adjacent to the campus at special student rates, and they can make use of the campus beach for swimming.

Intramural sports programs are organized in basketball, volleyball, soccer, and tennis. In addition, regular exercise programs are offered to the students in trampolining, tumbling, and weight-lifting. New programs will be introduced according to needs and desires.

## RELIGIOUS ACTIVITIES

Plans are currently under way to establish an off-campus University Religious Conference. The Conference, when fully developed, will integrate religious activities into student life. It is expected that Catholic, Jewish, Protestant, and other faiths will take a part in forming the University Religious Conference.


## THE REGENTS

## OF THE UNIVERSITY

## Regents Ex Officio

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State Capitol, Sacramento 14, Calif.
GLENN M. ANDERSON, A.B.
Lieutenant-Governor of California
State Capitol, Sacramento 14, Calif.
JESSE M. UNRUH, A.B.
Speaker of the Assembly
State Capitol, Sacramento 14, Calif.
MAX RAFFERTY, A.B., M.A., Ed.D.
State Superintendent of Public Instruction
721 Capitol Ave., Sacramento 14, Calif.
President of the State Board of Agriculture

THEODORE R. MAYER, A.B., J.D.
President of the Mechanics' Institute
Brobeck, Phleger \& Harrison
111 Sutter St., San Francisco 4, Calif.

NORRIS NASH, B.S.
President of the Alumni Association of the University of California
Kaiser Building, Oakland 12, Calif.

CLARK KERR, Ph.D., LL.D.
President of the University
714 University Hall, Berkeley 4, Calif.
2147 Administration Building,
Los Angeles 24, Calif.

## Appointed Regents

The term of the appointed Regents is sixteen years, and terms expire March 1 of the years indicated in parentheses.

EDWIN W. PAULEY, B.S., LL.D. (1970)
Ten Thousand Santa Monica Blvd.
Los Angeles 25, Calif.
CORNELIUS J. HAGGERTY (1966)
AFL-CIO Building, 815 Sixteenth St., N.W.
Washington 6, D.C.
DONALD H. McLAUGHLIN, B.S., M.S., Ph.D., D. Eng. (1966)

100 Bush St
San Francisco 4, Calif.
GERALD H. HAGAR, A.B., J.D. (1964)
1520 Central Building, 14 th and Broadway
Oakland 12, Calif.
EDWARD W. CARTER, A.B., M.B.A., LL.D. (1968)

14th Floor, United California Bank Building 600 S . Spring St
Los Angeles 14, Calif.
MRS. DOROTHY' B. CHANDLER, LL.D. (1970) 202 W. First St.
Los Angeles 53. Calif.
MRS. RANDOLPH A. HEARST (1974)
233 W. Santa Inez Ave.
Hillsborough, Calif.
SAMUEL B. MOSHER, B.S. (1972)
1010 Wilshire Blvd.
Los Angeles 17, Calif.

JOHN E. CANADAY, A.B. (1974)
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Burbank, Calif.
PHILIP L. BOYD, A.B. (1972)
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Riverside, Calif.
JERD F. SULLIVAN, JR. (1964)
Crocker-Anglo National Bank
1 Montgomery St.
San Francisco 4, Calif.
NORTON SIMON (1976) 164.5 W. Valencia Dr. Fullerton, Calif.
WILLIAM E. FORBES, A.B. (1978)
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WILLIAM M. ROTH, A.B. (1968)
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FREDERICK G. DUTTON, A.B., LL.B. (1978)
2700 35th Place, N.W.
Washington 7, D.C.

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Chairman
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John E. Landon, A.B., LL.B.
Associate Counsel
590 University Hal
Berkeley 4, Calif.
Miss Marjorie J. Woolman
Secretary
689 University Hall
Berkeley 4, Calif.

Mrs. Elizabeth O. Hansen, A.B.
Assistant Secretary
689 University Hall
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John P. Sparrow, A.B., LL.B. Associate Counsel 590 University Hall Berkeley 4, Calif.
Milton H. Gordon, A.B., LL.B. Assistant Counsel and Assistant Secretary 590 University Hall Berkeley 4, Calif.
Mark Owens, Jr., A.B., LL.B. Assistant Counsel and Attorney for Residence Matters 590 University Hall Berkeley 4, Calif.

Donald L. Reidhaar, A.B., LL.B. Assistant Counsel 590) University Hall Berkeley 4, Calif.
George L. Marchand, A.B., LL.B. Assistant Counsel 590 University Hall Berkeley 4, Calif.

## GENERAL

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Dean of University Extension Paul H. Sheats, Ph.D.
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Vice-Provost Willard C. Fleming, D.D.S., D.Sc.
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Vernon I. Cheadle, Ph.D.
Vice-Chancellor A. Russell Buchanan, Ph.D.
Vice-Chancellor Stephen S. Goodspeed, Ph.D.
Chancellor at Santa Cruz
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Assistant Chancellor-Business and Finance J. H. Clark, M.B.A.

University Librarian Melvin J. Voigt, M.A.
Dean of Student Affairs Theodore W. Forbes, Ed.D.
Registrar and Admissions Officer John W. Brown, M.A.
Accounting Officer Herman D. Johnson, B.S.
Building Program Coordinator J. W. Tippetts, A.B.

Administrator of Central Services J. W. Hutchison

Personnel Manager
Ruth R. Handley, B.S.
Manager of Publications and
Public Information
Thomas A. Manar, A.B.
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Scripps Institution of Oceanography

## Director

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Department of Oceanography F. N. Spiess, Ph.D.

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Graduate Division
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# University of California, San Diego 

## General Catalogs,

1964/1965


[^0]:    - May be selected from French, German, Russian or Spanish.
    $\circ^{\circ}$ Course will be specified later.
    ${ }^{\circ 00}$ Students will normally take elective courses to carry a total of 14 to 16 units each semester.

[^1]:    ${ }^{\circ}$ The grade-point average is determined by dividing the total number of acceptable units attempted into the number of grade points eamed on those units. Courses completed with a grade lower than C may be repeated, but the units and grade points count each time the course is taken. Scholarship standard is expressed by a system of grade points and grade-point averages in courses acceptable for advanced standing credit in the University of California. Grade points are assigned as follows: for each unit of $\mathrm{A}, 4$ points;
    $\mathrm{B}, 3$ points; $\mathrm{C}, 2$ points; $\mathrm{D}, 1$ point; E and F , no points.

