What is the value of a university education to people on their way toward full participation in our society? What is knowledge worth to you?

Perhaps the best answer to these questions was given by a man more noted for his political than scholarly record. In 1964, while President, Lyndon B. Johnson said:

_The cost of knowledge—whatever its price—is small against the price the world has already paid throughout its history for human ignorance._
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How to Use This Catalog

You will find that this catalog like most catalogs represents an attempt to gather into one publication as much information as possible about the academic and administrative programs of the campus.

But even as encyclopedic a volume as this will not necessarily answer all your questions. Therefore, you will find scattered throughout these pages references to other publications which deal with specific subjects and which are available on request. Finally, on page 264 there is a list of major publications showing their titles and prices, and how to obtain them.

As a first step in getting familiar with this book, examine the Table of Contents, and turn to that part of the Courses and Curricula section which deals with the area of your own particular interest. Then you should read carefully the front section to learn what the Berkeley campus has to offer you, both in and out of the classroom. Pay special attention to those sections giving information on the requirements and the procedures related to your admission, registration, and enrollment in the University. Also, read those areas which are of specific interest to you, such as housing, services to students, facilities, etc.

This is not a book to be read in one sitting. Rather, it is one to have close at hand, to go back to again and again as new questions arise in the ever-changing experience of being a student on a large university campus.

UNIVERSITY OF CALIFORNIA, BERKELEY
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Telephone: (415) 642-6000
Cable Address: UNIVCAL

All qualified students, regardless of race, sex, color, creed, physical handicap or national origin, are welcome.
(Please see Appendix for further information.)

Price: $1.50; $2.50 by mail (see page 264 for ordering information)

Historical photographs of the University of California, Berkeley, courtesy of the University Archives, the Bancroft Library: cover and pages 3-8.

Cover: Two views of the University and the San Francisco Bay, in 1874 and 1874.
Left: Class of 1903 on steps of North Hall, March 23, 1901, with flag of 1904.
Top Left: Class of 1868, College of California.
Bottom Left: Agriculture Building burns, April 16, 1897. View is from lawn of South Hall. Building was rebuilt and named Budd Hall.
Top Right: University of California President Benjamin Ide Wheeler addresses students for the first time in front of Bacon Hall, October 3, 1899. Portions of Philosophy Building, Mechanical Arts Building and East Hall are visible in background.
Bottom Right: First University of California Band, organized in spring of 1891. Their repertoire consisted of three stirring marches and two or three other selections.
Top Left: Charter Day, March 23, 1911. President Theodore Roosevelt at center surrounded by University of California dignitaries.
Center Left: Class of 1912, Pilgrimage of Senior Women; Student Army Training Corp with students in formation on West Field, circa 1918.
Bottom Left: Women students in physical education class at Hearst Hall, circa 1920.
Top Left: Students registering outside Old Harmon—Gym, circa 1920. Wheeler Hall in background.
Top Right: Students holding anti-war strike outside Sather Gate, April, 1935.
Center Right: Class of 1915. Postcard view of sophomore class warnings to freshmen.
Bottom Right: Students gathered about Wheeler Oak, circa 1924.
Top Left: Cal classroom scene, circa 1950.
Bottom Left: Freshman-Sophomore Brawl on field west of Hilgard Hall, September 3, 1937. In the final event of the day, the class of 1941 out-lugs the exhausted class of 1940.
Top Right: The Campus Cafeteria, circa 1950, comprising the Camellia Room, the Surf Room, the Sunlight Room, and the Turquoise Room.
Top Left: Lowie Museum of Anthropology staff member holds probable grave marker of Juan Rodriguez Cabrillo, called the "discoverer of California", who led the first exploration of the California coast by Europeans in the early 1540's.

Introduction

The University of California

History. The promise of a University of California is contained in the State’s constitution, drafted in Monterey in the gold rush year of 1849. California was admitted to the Union the following year, although almost twenty years were to pass before the hope for a public university was realized.

On March 23, 1868—Charter Day—Governor Henry H. Haight signed the Organic Act, which officially created the University of California. The University’s initial site was the Oakland campus of the College of California, which a year previously had offered its buildings and land to the state on condition that a “complete University” be established for the teaching of the humanities, agriculture, mining, and mechanics. The University moved to its first permanent campus, Berkeley, in 1873.

As the Berkeley campus grew, other campuses were added throughout California: San Francisco in 1873, Davis in 1905, Riverside in 1907, San Diego in 1912, Los Angeles in 1919, Santa Barbara in 1944, and Santa Cruz and Irvine in 1961. Today each campus maintains a separate administration, organization, and style of academic life, but all adhere to the same admission regulations and high scholastic standards.

Students. The inaugural enrollment of fewer than 200 students at the University of California has now grown to approximately 125,000. Nearly 88% are residents of California, with the remainder from other states and 94 foreign countries. Nearly one third are studying at the graduate level. Students have considerable freedom in choosing courses, although colleges, schools, and departments provide a broad framework of minimum general requirements and specific major requirements.

Despite the University’s size—the nine campuses offer about 100,000 courses—classes are as small as possible: nearly 70% of instruction is conducted in groups of 25 or less, and large classes are generally supplemented by small study groups. Students are encouraged to confer privately with instructors.

With certain exceptions, admission to the University is limited to graduates of California high schools in the top 12 1/2% of their classes; to graduates of out-of-state high schools in the top 8 1/4% of their classes; to students transferring from other colleges and universities whose academic records meet University requirements; and to graduate students with distinguished records.

Faculty and instruction. The faculty of the University of California is internationally noted for its distinguished academic achievements. The University leads all institutions in the world in the number of Nobel Laureates on its faculty. It also has more than 160 academic staff members who belong to the National Academy of Sciences. In 1977, its faculty members were awarded 44 Guggenheim Fellowships out of a national total of more than 350—more than any other university in the nation. For the thirteenth time in the past fourteen years, faculty members at the UC Berkeley campus received more of the prestigious fellowships than scholars at any other single institution.

One of the University’s unique resources is its small roster of University Professors. This title is reserved for distinguished faculty members who are recognized as scholars and teachers of exceptional ability. Each University Professor has a home appointment and can accept an appointment on another campus. All are available to other UC campuses for limited or extended visits, primarily for teaching or lecturing.

Each campus provides an Extension program that reflects the educational resources of its campus and community and serves the needs of the public in its area. UC Berkeley Extension offers continuing education courses in nearly all fields of study represented on the Berkeley campus and provides services that cut across departmental lines. Each academic year, about 42,000 men and women ranging in age from the college years through post-retirement enroll in UC Berkeley Extension.

Summer Sessions. An extensive offering of regular academic courses and special programs is available each summer through UC Summer Sessions. All campuses offer a wide variety of courses for which students may receive University credit. While admission to Summer Sessions does not constitute regular admission to the University, it is possible at some campuses to complete the equivalent of a full quarter’s work by attending two Summer Sessions. Students in good standing at any campus of the University or at another collegiate institution are eligible for enrollment. Equally eligible are high school graduates of distinct majors and adults with sufficient maturity and aptitude for the work they plan to undertake, and, in certain cases, high school juniors and seniors.

Courses, schedules, and fees vary among the campuses. While some campuses base their fees on the number of units a student takes, other campuses have a set fee for a given session. At the Berkeley campus the tuition varies with the number of units taken. Fifty departments at Berkeley offer over 500 introductory and advanced courses for University credit. There are also special sessions for selected intensive language workshops, and extensive cultural and recreational activities are provided. Courses are taught by both regular and visiting faculty.

The Berkeley Campus

The Berkeley campus is surrounded by wooded, rolling hills and by the business and residential districts of the town of Berkeley (population, 114,000). Despite its growth, the campus retains much natural beauty, with verdant glens, spacious plazas, and Strawberry Creek running westward through the length of the campus. The Berkeley hills afford a panoramic view of much of the San Francisco Bay Area, and a nine-county area of the public in its area. University Extension is the continuing education arm of the University, and serves the nine-county area. It is a major channel for the dissemination of University research to professional groups and the general public. UC Berkeley offers over 500 courses, most of which are taught in sections at Berkeley and in nearby communities. Each academic year, about 42,000 men and women ranging in age from the college years through post-retirement enroll in UC Berkeley Extension.

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of the student's curriculum, now shares time with the seminar, preceptorial, and tutorial. Oldest of the nine campuses, the Berkeley campus is adapting to new needs and new trends, in an effort to make higher education both a meaningful and productive experience.

Undergraduate Admission, Regulations & Procedures

This section offers a summary of admission policies and an outline of regulations and procedures for registration, enrollment in classes, and filing of study lists. It also gives a brief explanation of the quarter system, courses and units, grades of scholarship, honors, academic probation, academic disqualification, cancellation of registration, absences, withdrawal, re-entry, and progress toward a degree. The importance of these regulations and procedures cannot be underestimated. Additional information may be found in the Circular for New Undergraduates, which is sent each quarter to all newly admitted students.

Admission
You may obtain application packets containing all necessary forms and instructions from California high school and community college counselors or from the Office of Admissions and Records, 120 Sproul Hall, University of California, Berkeley, California 94720. This office accepts completed applications between July 1 and 31, 1977 for the Winter Quarter 1978; between October 1 and 31, 1977 for the Spring Quarter, 1978; and between November 1 and 30, 1977 for the Fall Quarter, 1978. After the indicated filing period, applications are accepted only until application quotas are filled.

You must include with your completed application forms a fee of $20 (not refundable).

If you have not registered in regular session in any college-level institution since graduation from high school, you will be applying for admission as a freshman student. You must meet these requirements for admission as a freshman:

(a) History. 1 year. One year of United States history or one-half year of civics or American government.

(b) English. 3 years. Three years of university preparatory English composition, not more than one year will be accepted from the ninth grade.

(c) Mathematics. 2 years. Two years of subjects such as mathematics, algebra, geometry, trigonometry, calculus, elementary functions, and mathematical analysis. Nonacademic courses such as arithmetic and business mathematics may not be used.

(d) Laboratory Science. 1 year. A year course in one laboratory science, taken in the tenth, eleventh, or twelfth grade.

(e) Foreign Language. 2 years. One language. Any foreign language with a written literature is acceptable.

(f) Advanced Courses. 1 (or 2) years. This must be chosen from the following:

Mathematics, a total of one year of advanced mathematics, intermediate algebra, trigonometry, or other comparable mathematics courses. Foreign language, either one additional year in the same foreign language offered under (e) or two years of another foreign language. Science, a year course in any laboratory science completed subsequent to the laboratory science used for (d) above.

If you are a graduate of a California high school, these courses must appear on a list that your high school principal has (1) certified meet the course descriptions above and (2) placed on file with the Director of Admissions. Additional elective units are also required to complete the minimum of 15 standard entrance units.

You must have at least a B (3.0) average in those courses taken after the ninth grade which are used to meet the subject requirements. Subject requirements are satisfied only by courses in which a grade of C (2.0) or higher has been assigned.

If you are applying as a freshman or if you are an advanced standing applicant who has earned less than 12 units of college credit subsequent to high school graduation, you must submit scores from the following examinations of the College Entrance Examination Board: (1) The Scholastic Aptitude Test; and (2) three Achievement Tests, which must include (a) English composition, (b) social studies or foreign language, and (c) mathematics or science. If your scholarship average in the required high school subjects is 3.00 to 3.09 inclusive, you must score a minimum total of 2500 on the examinations.

For detailed information on these requirements, and admission by examination alone, consult the Undergraduate Admissions Circular or the Undergraduate Admissions Packet, obtainable from the Office of Admissions and Records, 120 Sproul Hall.

If you do not meet the requirements for admission to freshman standing or if you cannot qualify by examination alone, you can only be admitted to advanced standing.

If you have been registered in a community college, a four-year college, a university, extension classes of college level, or any comparable institution since graduation from high school, you are subject to regulations governing admission to advanced standing. You may not disregard your college record and apply for admission to freshman standing. You must present from the last accredited college or university attended a statement of good standing and an academic record with a grade-point average of C (2.0) or better.

Admission of Nonresident Applicants. The admission requirements for nonresidents differ from those for residents in that the required grade-point average is higher. For freshmen, the average is 3.4 rather than 3.0 and for advanced standing, it is 2.8 rather than 2.0. Admissions procedures and all other requirements are the same as for California residents as described above. Consult the Undergraduate Admissions Circular for complete details.

Admission in Advanced Standing
The requirements for admission to advanced standing vary in accordance with your high
Admission in Advanced Standing for Nonresidents. Nonresident applicants who met the admissions requirements for freshman admission must have a grade-point average of 2.8 or higher in the college courses they have taken that are accepted by the University for transfer credit.

Nonresident applicants lacking any of the required subjects in high school must complete college courses in those subjects with a grade of C or higher. A nonresident applicant who graduated from high school with less than a 3.4 grade-point average in the subjects required for freshman admission must have completed at least 84 quarter units (56 semester units) of transferable work with a grade-point average of 2.8 or higher. Upon successful completion of that work, two units of the required high school subjects may be waived. Consult the Undergraduate Admissions Circular for complete details.

Intercampus Transfers. 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 last registered. The intercampus transfer application forms and application for transcript of record forms may be obtained from the Office of Admissions and Records and must be filed with that office. There is a fee of $20 at the time of filing. Dates for filing are the same as those listed for new applicants.

Additional Requirements for Admission in Advanced Standing. Refer to the announcement of the individual college or school to which you seek admission for additional requirements.

Educational Opportunity Program. This program (EOP) provides the opportunity for entrance to the University to students of minority and low-income background, who might not be able to attend otherwise. Prospective students who meet the regular admission requirements, as well as those who do not, may apply to the University through the EOP. Prospective EOP students must show a potential to benefit from higher education. Financial aid, counseling, tutoring, and housing aid are available under the program.

To be admitted to the EOP, you must apply to the Office of Admissions and Records of the campus you have chosen and complete a regular undergraduate application for admission. If you are interested, you should apply as early as possible.

Special Admission Circumstances

Certain rules apply for special applicants not included above.

Limited Status. This includes applicants with a bachelor's degree or with a substantial amount of college work completed with a superior scholastic average. There are no "special courses"; students will be admitted only to those courses for which they are able to demonstrate, in the opinion of the instructor, satisfactory preparation.

Admission is for a specified time, determined beforehand, and students must maintain a prescribed scholastic average. There are no "special status". Students may take approved courses for credit toward a bachelor's degree under the special status for the purpose of making up required college work. Admission is subject to the approval of the Director, Office of Admissions and Records, of the dean of the college or school, and of the individual college or school to which admission is sought. Admission is for a specified time, determined beforehand, and students must maintain a prescribed scholastic average. There are no "special status". Applicants for admission in limited status may have to complete a personal interview with an Admissions Officer, who will determine from the applicant's record the applicant's needs, plans, and conditions of admission, subject to approval from the dean of the applicant's college or school.

Students from Other Countries. An applicant from another country should request the brochure, Information for Prospective Students from Other Countries, designed to answer questions about admission to the University, visas, special examinations, fees and expenses, housing, and travel. Prospective undergraduates should direct inquiries to the Office of Admissions and Records, and prospective graduate students should write to the Graduate Admissions Office.

Registration

Registration is the means by which you officially become a student at the University. It includes, the payment of fees and the filing of a study list.

New and re-entering students receive information and instructions for registering by mail in advance of the quarter for which they have been admitted. The instructions include a mailing deadline which should be carefully observed. Continuing students must pick up their first set of registration forms at locations and dates indicated on bulletin board placards and return them to the Office of Admissions and Records, with the requested information and fees, by the deadline indicated in the enclosed instructions. A second set of registration forms, including the student's validated Registration Card, is mailed to the student prior to the beginning of the quarter. It is your responsibility to complete registration by the deadline indicated in the enclosed instructions. Failure to do so may require that you register late (in person) at the beginning of the quarter and pay a late fee of $25. Late registration also increases your difficulties in obtaining a suitable program of classes. Your name is not entered on class rolls unless you have completed registration by filing a study list.

You may not register after the third week of classes. You may not plead lateness as an excuse for neglecting assigned classwork—for which you are held accountable from the first day of classes.

Nonresident Tuition Fee

Students who have not been residents of California for more than one year immediately prior to the residence determination date for each term in which they propose to attend the University are charged, along with other fees, a nonresident tuition fee of $525 for the quarter or $952.50 for the semester. The residence determination date is the day instruction begins at the last of the University of California campuses to open for the quarter, and for schools on the semester system, the day instruction begins for the semester. For additional information on California residency and the nonresident tuition fee, please see Appendix.

1 The advanced standing requirements for admission listed here are experimental and are expected to continue in effect for applicants applying through the Spring Quarter 1978.
Enrollment in Classes and Filing the Study List

You should purchase from the ASUC Bookstore, for 25 cents, the Schedule of Classes, listing all courses and specifying prerequisites, instructors, hours, locations, and final examination groups. From this booklet, and with the aid of your adviser and this catalog, which provides course descriptions and prerequisites, you can assemble your program. You may not choose two courses in the same examination group. Usually courses in the same group meet at the same hour, thus precluding such a problem.

In order to complete your enrollment and receive credit for the work of a quarter, you must file your study list at the time and place designated by the Office of Admissions and Records. Students should arrange for conferences with advisers, review the program of studies they wish to undertake, and make their final choice of courses well in advance of the assigned dates for filing of their study lists. Students who fail to do this may be forced to file their study lists late and may become subject to the $10 late filing fee. The study list form is included in the packet issued to you when you register, along with instructions for completing it and filling it. There is a $10 fee for filing after the assigned date, and no study list is accepted after the third week of instruction. Unapproved withdrawal, or neglect of, a course entered on the study list will result in the assignment of grade of F. "NP," or "U" as appropriate. If you wish to make any changes of program after filing the study list, you must so do by formal petition with the signed approval of the instructor involved and the dean of your college or school.

The Quarter System

The 1977-78 school year will consist of three ten-week quarters and one eight-week summer session. The summer session was replaced by Summer Session in 1970. This arrangement will continue until further notice. A student making normal progress toward the bachelor’s degree will attend each quarter for at least three quarters per school year. If desired, progress may be accelerated by Summer Session attendance. For information about the Summer Session, write to the Office of Summer Sessions, 22 Wheeler Hall.

A student proceeding to the bachelor’s degree in four years (twelve quarters) will normally complete a total of 180 units, or 15 units per quarter. This number may be slightly higher in some programs. A student proceeding to the bachelor's degree in four years (twelve quarters) will normally be considered to have upper division or graduate credit to complete a total of 180 units, or 15 units per quarter.

Courses and Units

Most University courses are assigned a unit value. One unit represents three hours of work per week by the student, including both class attendance and homework. A work in progress in an eligible course may be accepted for a letter grade or a pass/fail grade only in registrar’s exception, quiz, or review sessions may or may not be given unit value.

Grades of Scholarship

The work of all students on the Berkeley campus is reported in terms of the following grades: A (excellent), B (good), C (fair), D (barely passing), F (failure). P (passed at a minimum level of C–), NP (not passed), S (satisfactory) or passed at a minimum level of B–). U (unsatisfactory). I work incomplete, due to circumstances beyond the student’s control, but of passing quality. IP (work in progress). Final grade to be assigned upon completion of entire course sequence. The grades A, B, C, and D may be modified by plus (+) or minus (–) suffixes. A course in which the grade A, B, C, D, or P is received is counted toward degree requirements. A course receiving the grade S is similarly counted unless otherwise specified in the course description. A course in which the grade F, NP, and U is received is not counted toward degree requirements. A course in which the grade of F or IP is received is not counted toward degree requirements until such time as the I or IP is replaced by grade A, B, C, D, P, or S.

Grade Points. Grade points per unit are assigned as follows: A=4, B=3, C=2, D=1, and F=0. When attached to the grades A, B, C, or D, plus (+) or minus (–) grades three-tenths of a grade point per unit, and minus grades three-tenths of a grade point less per unit than unsatisfactory grades, except for the A-, which carries 4.0 grade points per unit as does the A.

Grade-Point Average. The grade-point average is computed for work done at the University of California, with the exception of courses undertaken in University Extension. Grades A, B, C, D, and F are used in determining a student's grade-point average. Grades IP, P, S, NP, and U carry no grade points and are excluded from all grade-point computations. Grade I, if assigned prior to fall 1973, is included and is computed as an F, an I grade assigned fall 1973 and later is excluded from the computations. For additional information, see "Repetition of Courses."

Ex: Grade Points

<table>
<thead>
<tr>
<th>Grade</th>
<th>Units</th>
<th>Grade Points</th>
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<tr>
<td>A</td>
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</tr>
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<td>C</td>
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<td>8.5</td>
</tr>
<tr>
<td>P</td>
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<td>0</td>
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<td>I</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
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<td>45</td>
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</table>

Average 3.000

Repetition of Courses

A student may repeat only those courses in which he or she received a grade of D+, D–, F, NP, U, or I. Courses in which a grade of D+, D–, F has been received, and courses undertaken for a letter grade in which a grade of I has been received, may not be repeated on a Passed or Not Passed basis. Repetition of a course more than once requires approval by the proper department and the Office of Admissions and Records. On completion of the required work or deferred examination, grade points will be assigned if the student receives a grade of A, B, or C. On repetition of the course the units will be computed in the grade-point average, but grade points will be granted only with the prior approval of the Dean of the College or School. The Dean may extend the period of time in which an I grade may be completed beyond the thirteen-month limitation. Exception as noted below, any grade which has not been replaced within thirteen months after it has been assigned will, at the end of that time, be converted to grade F for or IP (or Not Passed or satisfactory/unsatisfactory). After that time, but not retroactively, the grade is counted in computing the grade-point average.

Exceptions: Within thirteen months of receiving a grade of I, the student may petition the Dean to have the grade of I changed to a grade which he/she has not attempted completion and will not complete the work required for removal of the I grade, and may request that the grade not be replaced by an F (or NP or U). This procedure is limited to no more than two courses, the decision is irrevocable, and the course may not be repeated. Also, if a degree is conferred before the end of the thirty months following the assignment of an I grade, the grade will not be converted to an F (or NP or U), the student in the meantime retaining the option of removing the I grade within the thirteen months.
Any undergraduate student with 16 or more units of I on his or her record may not register unless permission to do so is granted by the Dean. If the student has registered by mail, the registration may be cancelled.

A student who received an I grade prior to fall 1973 must file a Petition for Grade Points in Incomplete Course, with appropriate endorsements; and all students who receive an I grade whenever assigned must file a Petition for Revision of Grade of Incomplete, available at the Office of Admissions and Records. The latter should be filed as soon as the date of completion of the course has been established by the student and the instructor. The filing fee is $5, payable at the Cashier’s Office, regardless of the number of courses listed on the petition. The final grade will not be recorded until this form is filed.

Grade IP (In Progress)

For a course extending over more than one term, where evaluation of the student’s performance is deferred until the end of the final term, provisional grades of IP (In Progress) are assigned in the intervening term(s). Provisional grades are replaced by one final grade if the student completes the full sequence. The grade IP is not included in the grade-point average. Effective with an IP assigned fall 1973 and later, if the full sequence is not completed as scheduled, the IP will be replaced by grade I when the instructor has no basis for assigning a grade for the term(s) completed. Further changes in the student’s record will be subject to the rules pertaining to I grades (see above).

Passed/Not Passed and Satisfactory/Unsatisfactory Grades

Undergraduates in good academic standing may elect to undertake letter-graded courses on a Passed or Not Passed basis, and graduate students in good academic standing may elect to undertake letter-graded courses on a Satisfactory or Unsatisfactory basis and receive credit for such courses to a limit of one-third of the total units undertaken and passed on the Berkeley campus at the time their degrees are awarded. Included in this one-third are all units completed in an Education Abroad Program, or on another University of California campus in an inter-campus visitor or exchange program, or in a joint doctoral program. For graduate degree programs, grades of Satisfactory assigned in courses numbered 299 and in courses of the 300, 400 or 600 series are excluded from this computation. Students who enroll in a course announced as being offered only Passed/Not Passed or Satisfactory/Unsatisfactory will be graded P/NP or S/U if undergraduates, and S/U if graduates.

A course which is required in or prerequisite to the major may be taken on a P/NP or S/U basis only upon approval of the faculty of the student's School or College. Courses required in a graduate major are determined by the advisor.

Special or limited status students may take courses on a P/NP basis at the discretion of the Dean of the College or School in which they are enrolled. Students may not repeat on a P/NP basis a course which they have previously taken on a letter-graded basis.

The option of being graded P/NP or S/U in a course may be cancelled if the student is found to be ineligible for such enrollment. If the course is offered on a P/NP or S/U basis only, it may be deleted from the study list at the option of the student’s dean.

A student’s level of performance must correspond to a minimum letter grade of C- if a passed grade is to assigned, and to a B- if a satisfactory grade is to be assigned. These rules are subject to such other limitations as may be adopted by the faculties of the various Schools and Colleges and the Graduate Council.

Credit by Examination

A student may earn credit by examination by two methods:

1. On recommendation of the Board of Admissions, a new or re-entering student may be allowed credit by examination for knowledge acquired since graduation from high school, either by independent study or at another institution, and for which advanced standing credit has not been allowed. Application for such credit should be made directly to the Office of Admissions and Records. You may apply for credit by examination in any course listed in the Schedule of Classes as not requiring a final examination either written or oral may not be a satisfactory test. Credit by examination is not available if such credit would duplicate credit presented by the student for admission to the University, in elementary courses in a foreign language which is the mother tongue of the applicant. The examination must be a comprehensive examination, covering the entire course, and must be administered at one sitting, not to exceed three hours’ duration. It may be the regularly scheduled final examination for the class, provided that examination meets the foregoing description. The final result of the examination may be reported to the Office of Admissions and Records only as Passed or Satisfactory, according to the regulations governing the assignment of these grades. Further information concerning credit by examination may be obtained from the Office of Admissions and Records.

Midterm and Final Examinations

The number of midterm examinations varies at the discretion of the instructor. Final examinations, however, are mandatory in undergraduate courses, with the exception of courses listed in the Schedule of Classes as not requiring a final examination.

Final examinations are normally in written form and may or may not cover the entire course. You may, if you wish, inspect a file of sample examinations, listed by course, in the Moffitt Undergraduate Library. Examinations in non-laboratory courses may not exceed three hours. Any infringement of fair examination practice by a student is considered a serious offense subject to discipline.

You may be re-examined only to raise grade I to passing, not to raise any other grade.
Grade Reports and Transcripts of Record

At the close of each quarter, at a time and place designated by the Office of Admissions and Records and to be announced on bulletin boards on campus, you may obtain an unofficial copy of your academic record. This copy will, for students admitted Fall Quarter 1975 and later, reflect all work undertaken on the Berkeley campus. For those students admitted prior to the Fall Quarter 1975, the copy will be partial, and will cover course work undertaken Fall Quarter 1976 and later. Official copies of the academic record—transcripts—are also available from the Office of Admissions and Records. After the last date for final examinations, transcripts for registered students must be held for inclusion of grades for the quarter and, therefore, will not be available for approximately 25 working days. Partial transcripts will not be issued. At times other than the close of the quarter, the normal period required for the processing and issuance of transcripts for both registered and former students is four to five working days. The charge for each transcript of every undergraduate, graduate, or separate summer session record is $2, and $1 for each additional copy of any record requested at the same time. The total amount due must accompany the application.

Honors

Standards for honors status are set by the colleges and schools. Departments may, in addition, recommend students for inclusion on the Honors List. Honor students are usually accorded special privileges, including eligibility for honors programs. If you have an overall grade-point average of 3.5 you are accorded, through the Committee on Prizes, access to the Main Library loan stacks. For details on honors, please consult the college, school, or department.

Minimum Scholarship Requirements

Failure to maintain a minimum grade-point average prescribed by the college or school will normally result in probation or dismissal. Since scholarship rules are applied only at the close of regular sessions, grade points earned in a University of California summer session or by removing grade I are not taken into consideration until the close of the student's next quarter of attendance.

Academic Probation. Except in the Colleges of Chemistry and Engineering, students are placed on academic probation if at the end of any term their cumulative grade-point average is less than 2.0 (C average) computed on the total of all courses undertaken in the University.

Academic Dismissal. College of Chemistry and College of Engineering: Students shall be subject to dismissal from the University (a) if during any term they fail to attain at least a C average in all courses for which they are enrolled; or (b) if at the end of any term they have failed to attain at least a C average in all courses undertaken in the University.

College of Environmental Design, College of Letters and Science, College of Natural Resources, and School of Business Administration: Students are subject to dismissal (a) if their grade-point average falls below 1.5 for any term; or (b) if after one term on probation they increase their grade-point deficit; or (c) if after two terms on probation they have not achieved a grade-point average of 2.0 (C average) computed on the total of all courses undertaken in the University.

All other Colleges and Schools: Students are subject to dismissal (a) if at the end of any term their grade-point average for that term is less than 1.5; or (b) if they have completed two consecutive terms on academic probation without achieving a cumulative grade-point average of 2.0 (C average) computed on the total of all courses undertaken in the University.

Dismissed students may appeal, by formal petition, to the dean of their college or school, for a hearing, but the action of disqualification is normally considered final. A dismissed student who wishes to transfer to another college or school at Berkeley may petition the dean of the jurisdiction sought.

Student Conduct

As a student enrolling in the University, you assume an obligation to conduct yourself in a manner compatible with the University's function as an educational institution. Rules concerning student conduct, student organizations, use of University facilities, and related matters are set forth in both University policies and campus regulations, copies of which are available upon request at the Office of Student Activities and Programs, 103 Sproul Hall. Particular attention is called to the booklet University of California Policies Applying to Campus Activities, Organizations, and Students, (revised edition, 1973) and to the standard of conduct set forth therein.

Cancellation of Registration, Absences, Withdrawal, and Re-Entry

Students who have registered by mail and who wish to cancel their registration may do so provided they notify the Office of Admissions and Records in writing prior to the first day of the quarter. Cancellation of registration may not be accomplished by non-attendance of classes alone. A refund of all but $10 of the registration fees is made on cancellation if the registration card is returned, except for the $50 deposit paid by new undergraduates.

Responsibility for short absences during the quarter is left to the student. Permission to withdraw from the University for academic or disciplinary reasons is generally not granted after the first few weeks of the quarter except under unusual circumstances. If you do find it necessary to discontinue your studies for the remainder of the quarter, you should obtain a Notice of Withdrawal from the Office of Admissions and Records and submit it, together with your registration card, for the first of several required endorsements at the earliest possible date. If the form is submitted prior to the first day of classes, you will be entitled to the same refund as would be made on cancellation of registration. The refund of fees is prorated after the first day of classes. (For further information on refunds, see index, Schedule of Refunds.) You should note that the amount of refund, if any, is determined not by the date on which you discontinue your studies, but on the date on which the Notice of Withdrawal is first presented for endorsement. If you are eligible for further registration in the University, you will be entitled to a Statement of Honorable Withdrawal, whether you withdraw from a session in progress or at the close of a session. You must not discontinue the work of a quarter without formal notice. This may result in the assignment of F grades, academic dismissal, and loss of eligibility for readmission to a future quarter.

A student who has been dismissed for academic or disciplinary reasons is generally not eligible for readmission. If you have cancelled your registration, withdrawn, or been absent for any quarter, you will be required to apply for readmission to any future quarter you wish to attend. The Application for Readmission, which may be obtained from the Office of Admissions and Records, must be accompanied by non-transferable, nonrefundable Readmission Fee of $20 when first submitted. The Application for Readmission will not be considered until the fee has been paid. The final filing dates are given in the Calendar section of this Catalog.

Progress Toward the Degree

Declaration and Change of Major. Regulations and procedures for declaring the major vary for each college. You may, at any time up to the last quarter of residence, file a petition for a change of major. You must secure approval for this action from the dean or other authorized person in the college or department to which you are transferring.
Work Toward a Degree. At the close of each quarter, the courses, units, grades, and grade points earned are added onto your cumulative University record. From this record, you may determine your progress toward a degree. In working for a degree, you should keep in mind the various levels on which you are to satisfy requirements—University, college or school, and department—as well as the types of requirements you must fulfill: course, unit, grade point, and amount of upper division work. You may receive additional counsel in these matters from your adviser.

College and School Requirements. Every college and school has established a program of requirements for the degree, which may be in addition to those of a field of concentration. These requirements may include: (1) preparatory subject requirements for admission; (2) preparatory college-level courses for your particular field of study—to be completed, if possible, during your early period of residency in the college or school, or in some cases before entrance; (3) breadth requirements, courses outside the field of study, considered essential to a well-rounded curriculum; (4) the credit requirement, which is the total number of units to be completed, with specifications of how these credits are to be distributed; and (5) a minimum scholarship requirement. For detailed information you should obtain a copy of the announcement of your school or college. Occasionally—as, for example, with American History and institutions, are considered essential to your education, regardless of your academic or professional objectives.

Declaration of Candidacy. The Student Data Card, filed with your registration packet each quarter of residence, is used to enter your name on the appropriate degree list. You must be sure that this information is properly updated to reflect your current degree expectations. If it is not, and your dean does not add your name to the list, your graduation will be delayed. Should you find it necessary to amend your prospective date of graduation to the close of the current quarter, you may do so without fee through Monday of the third week of classes. The fee for each amendment is $3, but the notice must be given no later than Friday of the third week of classes. If for any reason you do not meet the requirements for graduation after announcing your candidacy, you must again update the information in the period for notification in the subsequent quarter when the degree will be awarded.

Residence Requirement for the Bachelor's Degree. After 135 units toward the bachelor's degree have been completed, at least 36 of the remaining units must be completed in residence in not less than three quarters in the college or school of the University in which the degree is to be taken. These 36 units must be completed in the quarter in which 135 units are exceeded plus not fewer than two additional quarters. At least two of the final quarters must be consecutive. You should consult the announcement of your college or school for details concerning the senior residence requirement as it pertains to the summer sessions.

Preparation for Graduate Study. If you are preparing for study toward higher degrees, you should learn, as early as possible, the entrance and degree requirements of your graduate field, in order to include all prerequisite steps in the undergraduate program.

Two General University Requirements

There are two requirements—beyond those set by the college, school, or department—which all undergraduates registered in the University must satisfy in order to graduate. Subject A and English, and understand how to compose an essay on an academic topic. For this reason, students are asked to demonstrate their writing ability (by the means shown below) on entering the University. Any student who cannot meet the requirement must enroll in the Subject A Department's course "Introduction to Language" during his or her first quarter of residence at the University or in a preceding summer session. In this 2-unit course, students are required to study University-level texts and write essays based on them. Instruction is also given in grammar and essay organization.

The Office of Admissions and Records accepts the following as evidence of having fulfilled the Subject A requirement:

1. A score of 600 or above on the English Composition Test of the College Entrance Examination Board—this test must have been taken before the student enters the University;
2. A score of 3, 4, or 5 on the College Board Advanced Placement Test in English;
3. Completion with a grade of C or better of a college-level course in English composition taken at another institution and judged acceptable by the Office of Admissions and Records;
4. A passing grade on an essay test administered by any of the Subject A departments within the University of California system.

All students held for the requirement on the basis of a CEEB score below 600 must take the University's Subject A examination, given by the Subject A department. This examination, which may be taken only once, is administered at the following times: (a) on the first day of pre-enrollment for each academic quarter, including summer session (see Calendar for exact dates); (b) on the first Saturday in May, for students in Bay Area high schools. The examination is used as the basis on which the department recommends release from the requirement. It is also designed to reveal the individual writing problems of each student held for the course. The same examination is used to determine the status of transfer students who have not been exempted from the requirement (see paragraph 3 above). Completion of the Subject A requirement (either by one of the ways listed above or by passing the Subject A course with a grade of C or better) is a prerequisite to all freshman reading and composition sequences. Credit for taking these courses will not be granted unless the Subject A requirement has first been fulfilled.
English as a Second Language. Students whose native language is not English and who have had less than two years at an American high school may fulfill the Subject A requirement (1) by receiving a score of 600 or better on the Test of English as a Foreign Language (TOEFL); (2) by demonstrating ability on the American Placement Examination in English as a Second Language; or (3) by taking one to a three composition courses in the ESL program of Subject A, the number of courses depending on student's performance on the Placement Examination and subsequent course grades (an A-or better in ESL 28 fulfills the requirement); or (4) by taking one or more courses, followed by the regular Subject A course (for students receiving B+ through C-in ESL 28). These courses must be taken in successive quarters beginning with the student's first quarter in residence at the University.

In addition, it is possible for students who have had two or more years at an American high school but whose writing problems remain primarily those of a non-native speaker to fulfill the Subject A requirement by taking one of the options outlined above. These students must also take the Placement Examination in ESL.

American History and institutions. The American history and institutions requirements are based on the principle that an American student enrolled at an American university should have some acquaintance with (1) the history, and (2) the public institutions of the United States. These requirements may be met in the following six ways:

1. By passing two examinations, one in each of the subjects. If you wish to take either of the examinations, you should obtain details at the American History and Institutions Office, Room 29, Dwinelle Hall.
2. By presenting official evidence of completion of the same two requirements at another college or University in California.
3. By completing one quarter (or Summer Session) of a course in each of the two groups given below (or, on approval of the Supervisor of American History and Institutions and dean of the college enrolled), any comparable courses offered at another college-level institution, or University Extension):


   (2) Institutions Requirement: Political Science 1, 100, 102, 103, 104, 106, 150, 157A, 157B, 170A, 171A, 171B, 184; Afro-American Studies 115; Business Administration 110, 111, 117, 154; Conservation and Resource Studies PENR 100C; Economics 1, 20, 121, 123, 131, 133, 151, 155, 156; Forestry 114; American Studies 50, 100; Philosophy 118; Rhetoric 164; Social Welfare 110B; Sociology 118, 120, 124. Additional courses may fulfill the history and institutions requirement on a quarter-to-quarter basis. Contact the American History and Institutions Office for details.
4. By mixing alternatives 1, 2, or 3 for either requirement. You may choose an examination in either one, or complete a course in either one, or submit evidence of equivalency for either one.
5. By completing the first two quarters of English 33A, 33B, 33C; History 33A, 33B, 33C, or Political Science 33A, 33B, 33C, of the Experimental College Program dealing with American Studies.
6. The American history part of the requirement can be fulfilled by passing the Advanced Placement Test in American History with a grade of 3, 4, or 5. No Advanced Placement Test currently exists in American Institutions.

The requirements will be waived for foreign students who, in the course of their registration, have submitted to the Office of Admissions and Records for inspection their documents certifying that they hold student (F) or exchange (J) visas. Those who wish to verify that the waiver has been granted may call at the Office of Admissions and Records, 120 Sproul Hall, for confirmation, preferably no earlier than the close of the second quarter of attendance. All students are advised that fulfillment of these requirements is the responsibility of the individual student, and preferably should be completed by the end of the junior year.

Steps to Becoming a Student at Berkeley

The following is a simplified outline of the steps you will take in becoming a student at Berkeley, either as a freshman or in advanced standing. In many cases, the steps cover a period of approximately one year. The dates for completing each step will be clearly indicated in further information you will receive as you go through the process of admission, registration, enrollment (where necessary), and study list filing.

1. Obtain Undergraduate Admissions Packet from your high school or community college counselor, or from the Office of Admissions and Records, 120 Sproul Hall.
2. Return completed forms contained in Admissions Packet, (plus nonrefundable fee of $20) postmarked no later than the last day of the first month of the filing period for the quarter for which you are applying. Thereafter, applications will be considered depending upon space available.
3. Receive from the Office of Admissions and Records a card acknowledging that your application has been received.
4. Receive from the Office of Admissions and Records, if redirection of applicant is necessary, a letter concerning redirection of the application to an alternate campus.
5. Receive from the Office of Admissions and Records request for additional transcripts or confirmation of academic work in progress.
6. Receive from the Office of Admissions and Records a notification of admission, a statement of your intent, a California resident, or from the Office of Admissions and Records, 120 Sproul Hall.
7. Return your statement of intention to register, plus nonrefundable fee of $50.
8. Receive from the Office of Admissions and Records a Registration Packet. Applicants admitted too late to register by mail will receive supplementary instructions concerning the registration procedure to follow.
9. Return completed forms and cards contained in the Registration Packet.
10. Receive from the Office of Admissions and Records, just prior to the opening day of the quarter, a second registration packet consisting of Study List, Registration Card, enrollment cards, etc.
11. File your Study List after you have planned your program of study with the aid of this catalog, the Schedule of Classes, and your assigned adviser.

The Graduate Division

Graduate study embraces all study for degrees and certificates beyond the bachelor's degree—primarily the master's and doctor's degrees—and is administered by the Graduate Division under the policies and regulations established by the Graduate Council of the Berkeley Division, a standing committee of the Academic Senate. Higher degrees shall fall into two broad categories: (1) Professional—degrees awarded by each of the professional colleges and schools on the Berkeley campus in recognition of a candidate's command of a comprehensive body of professional knowledge and the ability to organize and carry out investigation of significant problems in the field. (2) Academic—degrees awarded by the academic departments, and also some professional schools, in recognition of a candidate's command of a wide range of related subjects within an academic field, preparation in one or more foreign languages, and ability to pursue original research leading to a contribution of significant ideas to the field of study.

These graduate degree programs have been approved by the Graduate Council and the Coordinating Committee on Graduate Affairs. Others may be instituted only by a vote of these bodies. For a list of graduate degrees offered, see the end of this section.

Admission

Completed applications for admission, as well as all additional documents specified on the application form (including transcripts from each college-level institution previously attended), and an application fee of $20, must be filed with the Graduate Admission/Fellowship Office by the established deadlines.

Many departments have earlier final application dates than the Graduate Division, both with respect to admission and to financial assistance. When this is the case, materials must be in both the department and the Graduate Division by the departmental deadline date if the application is to be considered. Many departments also admit students only for the fall quarter of the year. Information on special departmental deadlines and requirements is contained in the application packets.

The final date of the Graduate Division for acceptance of applications for admission for the 1979-80 academic year are: fall quarter, February 1; winter quarter, September 1; and spring quarter, December 1.
under the Master Plan for Higher Education in California, there are limitations on enrollment at each public institution. Consequently, each graduate program at Berkeley has a maximum enrollment that may not be exceeded. Almost invariably, this maximum is smaller than the number of persons who are at least minimally qualified to enter the program, and selection is made to enter the program, and selection procedures are designed to admit applicants in accordance with their relative merit and promise, for the particular program, among those at least minimally qualified. Therefore, the competition for admission is severe, and it is to the applicant's advantage to make early inquiry about the possibility of study at Berkeley.

Admission Requirements: The University requires of the applicant the following: (1) a valid degree from an accredited institution, comparable to the bachelor's degree offered at Berkeley (occasional exceptions may be made for persons holding a professional baccalaureate and desiring entry only into a corresponding graduate professional program); (2) sufficient undergraduate preparation to enter graduate study in the chosen field; and (3) a satisfactory scholastic average. Since the methods of determining eligibility vary with each program, an extensive evaluation of the university record and the supplying of materials of each applicant is necessary.

In addition to the general University requirements, certain schools or departments may require additional records, such as separate applications, reading lists, examples of original work, or the results of qualifying examinations. Information on undergraduate requirements for a major field and on graduate programs and requirements is available in the schools or departments of the University. Admission committees base recommendations for admission upon careful comparison of applications; thus, there is frequently a considerable but unavoidable delay before final action is taken. Applicants for admission and fellowship consideration will be notified on or about April 1 of the action on their applications. Applicants for admission only will be advised as soon as possible after a decision to admit or to deny admission has been reached. Normally, however, acceptance is effective only after the application for admission only will not be issued until after March 1 for the fall quarter, July 1 for the winter quarter, and October 1 for the spring quarter.

Reactivation of Application: Applicants who change plans and withdraw their applications from consideration for a particular quarter will have all of their materials kept on file for a maximum of two years following the first application. Applicants may reapply within the two-year period by notifying the Graduate Admission/Fellowship Office to reactivate their files after the application deadline date for the quarter in question, and by providing a current application together with records of any academic work completed since application was first made. Students reactivating their files should keep in mind that most departments consider applicants for admission for the fall quarter only. Reactivating applicants have no priority over other applicants by virtue of their previous application. It is necessary to pay the $20 application fee if reactivation is made within the two-year period. For application after the two-year limit, a new application form must be filed (with the $20 fee) and a new set of records and supporting materials must be supplied.

Statement of Firm Intent to Register and Failure to Register: The admission notices to new (including reactivating) graduate students contain a statement of firm intent to register which must be filled out and returned to the Graduate Admissions Office by the date indicated thereon. Only the form of the firm intent to register is accepted by the Graduate Division Admission Office indicating a firm intent to register will reserve the allocated registration slot for the successful applicant. Applicants wishing to retain a record of the return of their firm intent to register should send it by certified or registered mail. Students who do not wish to accept the offer of admission must return the registration reply card included in the admission notice indicating their declination of admission so that their places can be reallocated to other applicants.

Students who fail to return the firm intent to register form and those who do, but do not follow through with registration in which they were admitted, must request reactivation of their application, as previously described, if they wish to attend any subsequent quarter. Students have one year to reapply for any subsequent quarter by virtue of their previous admission.

Foreign Applicants: In addition to the admission requirements previously mentioned, foreign students are expected to have an excellent command of English. In general, graduate study at Berkeley, as no student is admitted to graduate standing for the sole purpose of learning English. Since official evidence of English proficiency is available in the University's Admissions Office, whether their institution participates in the GRE Fee Waiver Program and whether they qualify. Fee waivers are not available directly from the Educational Testing Service.

Notification of Action on Admission: Only a written notice from the Dean of the Graduate Division, not letters from departments or faculty, is valid proof of admission. Admission to graduate study is limited by the number of places available in the various schools, colleges, and departments of the University. Admission committees base recommendations for admission upon careful comparison of applications; thus, there is frequently a considerable but unavoidable delay before final action is taken. Applicants for admission and fellowship consideration will be notified on or about April 1 of the action on their applications. Applicants for admission only will be advised as soon as possible after a decision to admit or to deny admission has been reached. Normally, however, acceptance is effective only after the application for admission only will not be issued until after March 1 for the fall quarter, July 1 for the winter quarter, and October 1 for the spring quarter.

Reactivation of Application: Applicants who change plans and withdraw their applications from consideration for a particular quarter will have all of their materials kept on file for a maximum of two years following the first application. Applicants may reapply within the two-year period by notifying the Graduate Admission/Fellowship Office to reactivate their files prior to the application deadline date for the quarter in question, and by providing a current application together with records of any academic work completed since application was first made. Students reactivating their files should keep in mind that most departments consider applicants for the fall quarter only. Reactivating applicants have no priority over other applicants by virtue of their previous application. It is necessary to pay the $20 application fee if reactivation is made within the two-year period. For application after the two-year limit, a new application form must be filed (with the $20 fee) and a new set of records and supporting materials must be supplied.

Statement of Firm Intent to Register and Failure to Register: The admission notices to new (including reactivating) graduate students contain a statement of firm intent to register which must be filled out and returned to the Graduate Admissions Office by the date indicated thereon. Only the form of the firm intent to register is accepted by the Graduate Division Admission Office indicating a firm intent to register will reserve the allocated registration slot for the successful applicant. Applicants wishing to retain a record of the return of their firm intent to register should send it by certified or registered mail. Students who do not wish to accept the offer of admission must return the registration reply card included in the admission notice indicating their declination of admission so that their places can be reallocated to other applicants.

Students who fail to return the firm intent to register form and those who do, but do not follow through with registration in which they were admitted, must request reactivation of their application, as previously described, if they wish to attend any subsequent quarter. Students have one year to reapply for any subsequent quarter by virtue of their previous admission.

General Regulations and Procedures: Graduate Advisers: Graduate advisers are appointed by the Dean of the Graduate Division from nominations sent by each academic department and group and by each professional school. Advisers' names are announced before the opening of each quarter. The responsibilities of the graduate advisers include: (1) assisting graduate students in selecting a program of study toward a degree, (2) reporting to the Dean of the Graduate Division on the acceptability of upper division and graduate courses completed by each candidate at other institutions, (3) endorsing applicants for graduate standing for the sole purpose of graduate study, particularly those relating to admission to graduate courses and maintenance of acceptable scholastic performance. The graduate advisers are assisted by the Dean of the Graduate Division and the chief representatives of the department or school in all matters related to graduate study, and their signatures are recognized as expressing official decisions.
Graduate students also have individual advisers, invariably after they have been admitted to candidacy for the doctorate and frequently in the earlier stages of their training. The individual advisers may or may not be the same as the official Graduate Advisers who are the Dean's deputys. All graduate students should keep in close touch with their individual advisers and must confer with their official Graduate Adviser at the beginning of each quarter to obtain approval of their programs of study (by signature on the Study List).

Foreign Students. Non-immigrant foreign students must check in at the Advisers to Foreign Students and Scholars Office, International House, as soon as possible after arriving in Berkeley.

Student Conduct and Discipline. A student enrolling in the University assumes an obligation for conduct compatible with the University's function as an educational institution. Rules concerning student conduct, student organizations, use of University facilities, and related matters are set forth in the booklet University of California Policies Applying to Campus Activities, Organizations and Students, and to the Standard of Conduct set forth therein.

Registration. Every graduate student in good standing, unless granted withdrawal by the Dean of the Graduate Division, will be required to register with the Office of Admissions and Records each quarter until the completion of all requirements for the degree. Failure to register or to obtain formal release will constitute presumptive evidence that a student has withdrawn from the Graduate Division. No graduate student may fail to register in any quarter without having first obtained a formal withdrawal. A student who has registered by mail and decides to withdraw requires the endorsement of the student's department, school, or group and the Dean of the Graduate Division.

Cancellation of Registration by Mail. A student who has registered by mail and decides before the first day of the beginning of the quarter not to attend (consult the Academic Calendar in this Catalog for the appropriate date), must file the Cancellation of Registration by Mail form. Once the quarter has begun, students must apply for a formal withdrawal as described above if it becomes necessary to discontinue studies. “Cancellation of Registration by Mail” forms are available from the Petitions Desk, Office of the Dean of the Graduate Division.

Readmission. A student who has withdrawn must file an Application for Readmission, obtainable from the Office of Admissions and Records, and must pay a nonrefundable, non-refundable Readmission Fee of twenty dollars ($20). The Application for Readmission will not be reviewed. Approval of readmission is not automatic. A formal review of the application will be conducted by the Graduate Division and the appropriate college, school, group, or department, and the student is notified whether the petition has been approved or denied.

Standards of Scholarship and Dismissal for Academic Deficiencies. Only courses graded A, B, C, or D (with or without plus or minus signs) or S are accepted in satisfaction of degree requirements. Courses graded below C do not yield unit credit toward a higher degree, irrespective of the overall grade-point average. Graduate students must maintain a minimal grade-point average of 3.0 in all upper and graduate division courses and must follow expeditiously the academic residence requirement for higher degrees as specified for the program, and advancement to candidacy as specified for the various degree programs.

For a course extending for more than one quarter where evaluation of the student's performance is deferred until the end of the final quarter, provisional grades of in progress (IP) may be assigned in the intervening quarters. Provisional grades are replaced by the final grade if the student completes the full sequence. If the full sequence is not completed, the Berkeley Division of the Academic Senate is authorized to regulate the award of credit.

With the consent of the department involved, graduate students may enroll in courses in the "600-series." Such courses are evaluated by means of the grades satisfactory and unsatisfactory (S and U). They prepare students for appropriate master's or doctoral examinations and do not count toward academic residence or the unit requirements for a higher degree. No credit is allowed for work graded unsatisfactory.

Graduate students are subject to dismissal for academic deficiencies at the discretion of the Dean of the Graduate Division under the policies and procedures established by the faculties of departments, graduate groups, and professional schools and colleges, and under the policies established by the Graduate Council of the Academic Senate. Dismissal for academic deficiencies is normally effected by the Dean on the recommendation of the Graduate Adviser, but the Dean may also initiate dismissal after individually reviewing a student's record. Dismissal for academic reasons by the Dean may be appealed to the appropriate committee of the Graduate Council of the Academic Senate.

California Legal Residence. At the time of registration, every entering student is classified as a resident or nonresident for tuition purposes. Only U.S. citizens and holders of immigrant visas can become qualified for resident classification. Under California law a student is classified as a resident for tuition purposes if he/she has had residence in the state for more than one year immediately prior to the day instruction begins at the institution to open for a new quarter. Residence is the combination of physical presence within the state plus intent to reside in California permanently. Nonresidents must pay a nonresident tuition fee each quarter. The present fee is $635.00 per quarter. For detailed information regarding the establishment of California residence, see Appendix, or write to the Attorney in Residence Matters, University of California, 590 University Hall, Berkeley, CA 94720. For information on waiver of the nonresident tuition fee for graduate students who are nonresidents, see page 24, Waiver of the Nonresident Tuition Fee.

Academic Residence. In order to meet the academic residence requirement for higher degrees—not to be confused with state residence, defined above—every graduate student must enroll in and complete a minimum of 4 units of upper division and/or graduate courses per required quarter of academic residence. Only courses in the 100 or 200 series satisfy this requirement. (Students should also familiarize themselves with the regulations on academic residence for the individual graduate degrees.)

The Study List and Study-List Limits. Each quarter in which registered the student fills out a study list, entering on it all courses or any other graduate work, including thesis and/or research approved by the Graduate Adviser, to be undertaken for the quarter.

* For further information see page 12, Grades of Scholarships.
Courses are classified as lower division (numbered from 1 through 99); upper division (100–199); and graduate (200–299). Lower division courses are not counted as part of a full program of study leading to a higher degree. (For information on courses in the "600-series" see page 36.)

Teaching assistants and research assistants must normally carry a minimum of 6 units of upper division or graduate work. Fellowship holders and foreign students on nonimmigrant visas must carry a full program of study, the minimum range in such cases being from 8 to 12 units in upper division and/or graduate courses, although cognizance is taken of the amount of individual study being pursued in the form of language preparation, comprehensive and qualifying examination preparation, etc., for the Ph.D. degree. In these cases reduced unit loads are accepted as full programs with the consent of the Graduate Adviser and Dean of the Graduate Division. Formal classification of a student's program as full-time, three-quarter-time, half-time, or quarter-time is determined by the Graduate Adviser and entered on the study list each quarter. For the convenience of advisers and students a suggested maximum schedule is given below.

### Maximum Program

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### Maximum Program for Teaching Assistant and Research Assistants

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### Maximum Program for Persons Employed

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### Changes in the Study List

Graduate students may file petitions to add or drop courses entered on their study lists at any time through the twenty-fifth day of instruction. Discontinuance of a course after this time will normally result in a grade of F. After this period, a written statement from the Graduate Adviser must be submitted to the Dean of the Graduate Division for special approval of any changes in study lists. For those who receive approval, a $3.00 fee will be assessed for late changes in the study list.

### The Nature of Graduate Instruction

A graduate course is a highly advanced course in a field of study already intensively presented in the upper division. Graduate courses demand, on the part of both instructor and student, either a capacity for critical analysis or a specialization of research interests not normally appropriate to an undergraduate major. These courses may be conducted in a number of ways: (1) as advanced lecture courses, (2) as seminars in which faculty and students present critical studies of selected problems within the subject field, (3) as independent study or reading courses, or (4) as research projects conducted under faculty supervision. The main purpose of graduate study is to inspire independence and originality of thought in the pursuit of knowledge. The graduate student is expected to achieve mastery of the chosen field through advanced coursework and—equally important—through independent study and research. Considerable liberty is accorded in the choice of courses, at the discretion of the Graduate Adviser, as long as minimum requirements for academic residence are met.

Possession of a bachelor's degree does not in itself entitle a student to enroll in a graduate course. These courses assume adequate preparation at the upper division level in the subject field. These courses are not work basic to the subject matter of the graduate course; this basic work may be pursued in more than one department. Graduate students are encouraged, therefore, to take any upper division work that will provide them with the background needed for advanced work; they are not confined to graduate courses.

Graduate courses completed before attainment of the bachelor's degree are not acceptable for unit credit toward an advanced degree. Courses in the 300 and 400 series, which are professional in nature, are designed to meet the requirements for the various certificates and are not acceptable for unit credit as part of the program for an academic degree. They may, however, satisfy certain substantive requirements in particular academic programs, such as engagement in teaching activity or particular kinds of research or technical work.

### Course Credit by Examination

A graduate student in residence may petition to receive a limited amount of course credit toward the degree by passing examinations on material covered in certain courses in lieu of taking those courses. Laboratory courses or graduate seminars or research courses are excluded. The petition is obtainable from the Office of Admissions and Records. Approval to take such examinations must be given by the Dean of the Graduate Division and by the course instructor, or, where no instructor is designated, by the departmental chairperson.

### Duplication of Higher Degrees

Normally duplication of degrees is not permitted. A student may petition the Dean of the Graduate Division for exception to this policy if the degree desired is in a field of study distinctly different from the field in which the original degree was attained. A professional degree is not regarded as duplication of an academic degree.

On the recommendation of the Graduate Adviser, and with the approval of the Dean of the Graduate Division, a student may, however, be permitted to earn a second master's degree in the same subject as that of the first master's (or in a closely allied subject), if enrolled in a doctoral program at Berkeley in that subject (or allied subject), and if that particular doctoral program requires that a master's degree be earned at Berkeley.

### Degrees for Members of the Academic Senate

A voting member of the Academic Senate may be recommended for a higher degree by a Senate Division of which the recommended person is not a member, provided that all the requirements of that Division have been fulfilled. No voting member may be recommended for a higher degree by that person's own division unless, prior to the date of final action on the appointment to a rank carrying the voting privilege,
the Dean of the Division has certified to the appropriate authority that all the requirements for the degree have been met. Such appointments may be retroactive.

University Extension

Upon recommendation of the Graduate Adviser and with special approval of the Dean of the Graduate Division, a student in a master’s program may be permitted to transfer up to six units earned in University Extension concurrent courses toward the unit requirement for the degree. Concurrent courses are those courses taken on the Berkeley campus under the instruction of a regular member of the faculty.

The Master’s Degree

Instruction is offered on the Berkeley campus leading to both academic and professional degrees as listed in this section. Specific regulations governing the professional master’s degrees are set forth in the individual Announcements of the colleges and schools. The present section will deal primarily with the academic master’s degree, though the rules and procedures described will be of interest to candidates in all fields.

Residence Requirement. A minimum of three quarters of academic residence (as defined earlier under Academic Residence) is required for the master’s degree. Specific subject requirements are set by the schools and departments.

Transfer of Credit from Other Institutions. Up to 6 quarter units (or 4 semester units) of courses previously taken at other institutions may be applied toward the degree, upon approval of the Dean of the Graduate Division. These units are allowed if earned in graduate status at an institution of high standing,7 but they cannot be used to reduce the minimum residence requirement or minimum requirement of graduate-level units. Requests for degree credit for such courses are not considered until a student has completed at least one half of the program for the master’s degree and is applying for advancement to candidacy. The student’s entire record must indicate superior scholarship.

Satisfactory Grades. No more than one-third of the master’s program may be fulfilled by courses graded Satisfactory, and then only if approved by the department or group.

Amount and Distribution of Work. Students working for academic master’s degrees on the Berkeley campus will pursue one of two plans, as determined by the individual department (departments may adopt either or both plans, and will, in the latter case, designate which plan is to be followed by each student):

Plan I requires at least 30 quarter units of upper division and graduate courses and a thesis. At least 12 of these units must be in graduate courses (200 series) in the major subject. Course units are not granted for the thesis.

Plan II requires at least 36 quarter units of upper division and graduate courses, followed by a comprehensive final examination administered by the student’s department or group. At least 18 of the units must be in graduate courses in the major subject.

Students under both plans are guided by their graduate advisers regarding distribution of course work among the departments. Further requirements are specified by the major department.

Advancement to Candidacy. Admission to candidacy for a master’s degree is not automatic upon completion of the degree requirements; it requires a formal application to the Dean of the Graduate Division that bears the approval of the student’s major department or school and a precise statement of the studies on which the application is based. Application must be made not later than the end of the second week of instruction of the quarter in which the degree is to be awarded. If a student is to submit a thesis, however, the adviser should be consulted about advancement to candidacy as early as possible so that the appropriate committee can be formed.

The Master’s Thesis. Students under Plan I described above must submit a thesis in typewritten form, double spaced on medium weight, 8 1/2 by 11 inch paper of good quality, with a minimum left hand margin of 2 inches. Consult the Degrees staff in the Office of the Dean of the Graduate Division for required brands of paper. The thesis must be unbound and without perforations. The type must be adequate for photographic reproduction. Following approval by the student’s thesis committee two copies are filed with the Dean of the Graduate Division. Further information regarding the organization and format of the thesis is available from the Degree Staff, Office of the Dean of the Graduate Division.

The thesis constitutes a report, in as brief a form as possible, of results obtained in an original investigation of a problem. While it is understood that the problem in question need be one of only limited scope, the thesis should be comparable in style, organization, and depth of understanding to investigations of greater scope, such as the dissertations of doctoral candidates.

The thesis is submitted to a committee of three members of the faculty appointed by the Dean of the Graduate Division, with one member of the committee being chosen from a department other than that of the candidate’s major subject. The candidate is required to confer with all members of that committee before undertaking the work of a thesis. Since the candidate is not appointed until a student is advanced to candidacy, the student, to avoid the possibility of having to make extensive revisions, should not begin thesis work before advancement. Responsibility for placing the completed thesis in the hands of the committee members rests with the student.

If all three members of the committee approve the thesis, they sign the official title page prepared by the Office of the Dean of the Graduate
Division, where two copies of the thesis are filed for later deposit in the University Library. If any member of the committee doubts the acceptability of the thesis, the chairperson convenes the committee to discuss it. If the committee then reaches agreement on its acceptability, the thesis is signed and filed as previously indicated. If there is disagreement, the thesis is sent to the Dean of the Graduate Division together with a brief statement of each committee member's opinion. If the thesis is rejected by all members of the committee, it is sent to the Dean with a statement to that effect by the committee chairperson. In all cases of rejection or split vote, the Administrative Committee of the Graduate Council makes the final decision.

The Doctor's Degree

Instruction is offered on the Berkeley campus leading to both academic and professional degrees as listed in the Index under, Graduate Degrees Offered on the Berkeley Campus. Professional degree programs are outlined in the individual Announcements of the colleges and schools offering them. The general procedures given in this section apply primarily to the academic doctor's degree, though the information will be of interest to candidates in all fields.

The Doctor of Philosophy degree is not granted at the University of California solely for fulfilling technical requirements such as residence and completion of specified courses. The degree is awarded in recognition of a candidate's knowledge of a broad field of learning and fine accomplishment in that field through an original contribution of significant knowledge and ideas. The candidate's research must reveal critical ability and powers of imagination and synthesis.

Residence Requirement. A minimum of two years or six quarters of academic residence (as defined earlier under Academic Residence) is required for the Ph.D. degree. A maximum period in candidacy determined by the department and the Graduate Division is permitted, after which termination of candidacy for the degree is likely to occur. The department or the Graduate Division should be consulted for the time permitted for candidacy.

Program of Study. Programs of study for doctoral degrees are more individualized than those for master's degrees, permitting more specialization within a field or the establishment of connections among fields. Nevertheless, applicants must have their programs of study approved by the Graduate Adviser of the department or group to which they are admitted or later transferred. As noted earlier, University policy requires continuous residence from entrance until receipt of the degree, unless a formal withdrawal is granted by the Dean of the Graduate Division.

The field of study may be in a single department, except for essential related courses in other departments, in several departments, or in an interdisciplinary group. Once a field of study has been chosen, students should confer with their graduate advisers to select the sequence of courses that will best prepare them for qualifying examinations and research work.

Interdisciplinary Groups. The University has established graduate programs in a number of fields that cut across conventional departmental lines and the composition of definite cores of knowledge. These programs are administered by groups of faculty from several related departments and, in certain instances, from several campuses. Students enrolled in these programs can work with any faculty member in the group without having to pursue the particular discipline of the department with which the faculty member is associated. Moreover, this arrangement makes available to group students a range of facilities not ordinarily open to students enrolled in departmental programs. In some cases (e.g., Medieval Studies), a faculty committee is specifically appointed to advise both the student and the interested departments on setting up a program that will best meet both the student's needs and the departments' views of the proposed program's intellectual quality. Since these programs have no budgets or facilities of their own, however, most applicants, to be accepted by a particular group, must first obtain the sponsorship of one of its faculty members.

Following is a list of Graduate Groups on the Berkeley campus:

- **Group in Agricultural Chemistry**
  Professor Leonard F. Bjeldanes, Chairperson
  223 Morgan Hall

- **Group in Ancient History and Archaeology**
  Professor John K. Anderson, Chairperson
  5212 Dwinelle Hall

- **Group in Asian Studies**
  Professor John B. Starr, Chairperson
  210 Barrows Hall

- **Group in Biophysics, Biordiology, and Medical Physics**
  Professor Thomas Hayes, Chairperson
  108 Donner Laboratory

- **Group in Biostatistics**
  Professors E. L. Scott and C. L. Chiang, Co-Chairpersons
  308 Earl Warren Hall

- **Group in Buddhist Studies**
  Professor Lewis H. Lancaster, Chairperson
  104 Durant Hall

- **Group in Comparative Biochemistry**
  Professor J. A. Bassham, Chairperson
  Lawrence Berkeley Laboratory
  Laboratory of Chemical Biodynamics

- **Group in Comparative Pathology**
  Professor Stewart H. Madin, Chairperson
  3510 Life Sciences Building

- **Group in Endocrinology**
  Professor Howard A. Bern, Chairperson
  4079 Life Sciences Building

- **Energy and Resources**
  Allan J. Lichtenberg, Chairperson
  Building T-3

- **Group in Environmental Health Sciences**
  Professor Eddie T. Wei, Chairperson
  105 Earl Warren Hall

- **Group in Epidemiology**
  Dr. William C. Reeves, Chairperson
  208 Earl Warren Hall

- **Group in Folklore**
  Professor William Bascom, Chairperson
  103 Kroebel Hall

- **Group in Food Science**
  Professor George W. Chiang, Chairperson
  119 Morgan Hall

- **Group in Genetics**
  Professor Seymour Fogel, Chairperson
  345 Mulford Hall

- **Health and Medical Sciences**
  Professor Sheldon Morgen, Chairperson
  309 Morgan Hall

- **Group in Immunology**
  Professor Phyllis B. Blair, Chairperson
  3573 Life Sciences Building

- **Sponsoring Committee for Latin America**
  Professor Woodrow W. Borah, Director
  3229 Dwinelle Hall

- **Group in Logic and the Methodology of Science**
  Professor David Blackwell, Chairperson
  514 Evans Hall

- **Committee on Medieval Studies**
  Professor Jerry R. Craddock, Chairperson
  4333 Dwinelle Hall

- **Group in Microbiology**
  Dr. Terrance Leighton, Chairperson
  5559 Life Sciences Building

- **Group in Neurobiology**
  Professor Frank S. Werbin, Chairperson
  231 Cory Hall

- **Group in Nutrition**
  Professor Janet King, Chairperson
  217 Morgan Hall

- **Group in Parasitology**
  Professor Deane P. Furman, Chairperson
  411 Weill Hall

- **Group in Physiological Optics**
  Dean Monroe J. Hirsch, Chairperson
  101 Minor Hall

- **Group in Plant Physiology**
  Professor Herbert Gold, Chairperson
  147 Hilgard Hall

- **Group in Range Management**
  Professor H. F. Heady, Chairperson
  101 Giannini Hall

- **Group in Romance Languages and Literatures**
  Professor Leo Bersani, Chairperson
  4125 Dwinelle Hall

- **Group in Romance Philology**
  Professor Ruggero Stefanini, Graduate Adviser
  5116 Dwinelle Hall

- **Committee for Certificate in Russian and East European Studies**
  Professor Reginald E. Zelnick, Chairperson
  372 Stephens Hall

- **Group in Science/Mathematics Education**
  Professor Frederick Reif, Chairperson
  357 Birge Hall

- **Group in Soil Science**
  Professor John McColl, Chairperson
  108 Hilgard Hall

- **Group in Wood Science and Technology**
  Professor Fred E. Dickinson, Chairperson
  478 Richmond Field Station

Individual Doctoral Programs. To allow the student an approach to a field that, in its breadth, falls between that of the department and the interdisciplinary group, the Graduate Division has encouraged the informal establishment of ad hoc programs leading to the Ph.D. degree. Only students who have completed some graduate study here and have already been admitted to a doctoral program will be considered for an interdisciplinary doctoral program. In such programs, the student may prepare a proposal for a course of study under the sponsorship of three faculty members. Final approval of every individual graduate program and admission of each student into such a program must be granted by the Graduate Council. Degree requirements must be completed in accordance with Graduate Council policies and the degree is awarded in a field stipulated by the Council for the individual student.

Foreign Language Requirement. The requirement serves (1) to make certain that Ph.D. candidates have the ability to acquire wide knowledge in the field of study, and (2) to enable them to keep up with foreign developments in the field. Students must fulfill the foreign language requirement for the Ph.D. before advancement to candidacy and preferably before admission to the Qualifying Examinations (see next column), according to the policies current...
in the department or group. Each graduate program may have somewhat different foreign language requirements, not only with respect to the particular languages required but also with respect to their number. Some graduate programs include the satisfaction of the foreign language requirement for the doctorate in their requirements for admission to doctoral programs. Prospective students are urged to inquire about the foreign language requirement as soon as possible and, if they can, to fulfill it while still in undergraduate status. Although the Graduate Council has granted variances to the general legislation of the Academic Senate for some programs, the overall requirement of knowledge of foreign languages may, in general, be satisfied by one of the following options in accordance with the Academic Senate Regulation 2001, June, 1971:

1. Demonstration of a reading knowledge of two languages by passing an examination in each, set by the department(s) concerned. The department(s) determine(s) whether a dictionary is accepted. The length of the passage and the time allotted are subject to regulation by the Graduate Council. For one of these examinations, the student may, subject to the approval of the department(s) concerned, substitute a five-quarter or equivalent sequence of courses in that language, of University grade, passed with an average of C or better. The Graduate Council establishes general policies respecting such sequences, including time limits beyond which they no longer carry credit, and authorizes the Dean, upon recommendation of the department(s) concerned, to accept language courses taken at another institution.

2. Demonstration of an exceptionally thorough reading knowledge and an adequate knowledge of the grammatical structure of a single language. Such command is tested under the direction of the Graduate Council.

In the above options the terms "language" and "languages" refer to any language certified to the Graduate Council by the departments concerned.

Students who by virtue of background have a native speaker's command of a certified language will be considered to have met the language requirement as specified in 2 above. Standards for evidence of background will be established by the Graduate Council.

Noncredit courses for graduate students are offered by various language departments to prepare students for reading examinations.

Notice of Intended Candidacy. Notice of intention to proceed to candidacy for a doctoral degree should be given by students to the department or group for review and decision by the Graduate Adviser as early as possible in their graduate career, preferably by the end of the second quarter of residence.

Qualifying Examinations. Before admission to candidacy, students must pass a series of qualifying examinations administered by a five-member committee appointed by the Graduate Council. Any previous deficiencies in training must have been removed, including satisfactory resolution of any incomplete grades in courses required by the Graduate Adviser for the individual program. The average in all course work undertaken in graduate status must have been maintained, and the language requirement(s) must have been fulfilled.

Advancement to Candidacy. Application is made on a form furnished by the Graduate Division, after the first quarter following the one in which the qualifying examinations were passed. The completed form, bearing the endorsement of the student's department, is filed with the Dean. The candidate's field of study, who determines whether all formal requirements have been met. A fee of $25 must be paid when the application is filed. All requirements for the doctoral degree except the dissertation must have been completed before the student may be advanced to candidacy.

The Candidate's Degree. The degree, "Candidate in Philosophy," which gives formal recognition to a definite state of progress toward the doctorate, may be awarded to students when they are advanced to candidacy for the Ph.D. degree. The following departments and groups currently offer this degree:

- Ancient History and Archaeology
- Anthropology
- Applied Mathematics
- Architecture
- Astronomy
- Bacteriology
- Biochemistry
- Biostatistics
- Botany
- City and Regional Planning
- Classics
- Comparative Literature
- Computer Science
- Demography
- Dramatic Art
- Economics
- Endocrinology
- Engineering
- Environmental Planning
- French
- Genetics
- Geography
- German
- History
- Immunology
- Italian
- Latin American Studies
- Librarianship
- Linguistics
- Logic and the Methodology of Science
- Molecular Biology
- Near Eastern Languages and Literatures
- Near Eastern Religions
- Nutrition
- Oriental Languages
- Paleontology
- Physiology-Anatomy
- Plant Pathology
- Plant Physiology
- Political Science
- Psychology
- Rhetoric
- Romance Languages and Literatures
- Scandinavian Languages and Literatures
- Science/Mathematics
- Science
- Social Sciences and Literatures
- Slavic Languages and Literatures
- Statistics
- Wildland Resources
- Zoology

Doctoral Dissertation. The format of the doctoral dissertation is similar to that outlined in the master's degree. Further information is available from the Dean of the Graduate Division.

The dissertation, the product of independent investigation under faculty supervision, must be submitted to the committee in charge (see next page), and must receive both its approval and the approval of the Graduate Council. The dissertation is the most important requirement for the doctoral program; the degree is in no case granted for completion of course work only, no matter how extensive.

The candidate is to work under one of two plans as adopted by the department or group:

Plan A: the Administrative Committee of the Graduate Council appoints a five-member committee which determines whether the candidate has met the requirements for the degree. Three members of the committee, one of whom must be from a department other than that of the student's major subject, guide the candidate in research and pass judgment on the merits of the dissertation. The whole committee conducts a final oral examination dealing primarily with the relationship between the dissertation and the general field of study in which the subject of the dissertation lies. Admission to the final examination may be restricted to the members of the committee, members of the Academic Senate, and guests of equivalent rank from other institutions.

Plan B: the Administrative Committee of the Graduate Council appoints a committee of three members, one of whom must be from a department other than that of the student's major subject, to guide the candidate in research and judge the merits of the dissertation. This committee may require any necessary conferences for elucidation of the subject treated in the dissertation. After presentation of the dissertation, but before final action is taken upon it, the committee may, if deemed necessary, require the candidate to defend the dissertation in a formal oral examination.

After the dissertation has been approved by the candidate's committee, the original is filed with the Dean of the Graduate Division on a date specified by that office. Along with the dissertation, an abstract of it in duplicate not to exceed 600 words, with one copy signed by the dissertation chairperson, is also filed with the Graduate Division.

All of the procedures and regulations described above, and in the preceding section on master's degrees, constitute the minimum requirements for the higher degrees, as set by the Graduate Division. Each academic department may adopt additional requirements, as approved by the Dean of the Graduate Division and the Graduate Council, according to the demands of a candidate's field of study. Programs using Plan A and Plan B are listed below.

**Plan A**
- Anatomy
- Architecture
- Asian Studies
- Buddhist Studies
- Comparative Literature
- Environmental Health Sciences
- Italian
- Logic and the Methodology of Science
- Near Eastern Studies
- Romance Languages and Literatures
- Emphases: French, Italian, Spanish
- Romance Philology
- Scandinavian Languages and Literatures
- Classics
- Comparative Literature
- Computer Science
- Demography
- Dramatic Art
- Economics
- Endocrinology
- Engineering
- Environmental Science
- French
- Genetics
- Geography
- German
- History
- Immunology
- Italian
- Latin American Studies
- Librarianship
- Linguistics
- Logic and the Methodology of Science
- Molecular Biology
- Near Eastern Languages and Literatures
- Near Eastern Religions
- Nutrition
- Oriental Languages
- Paleontology
- Physiology-Anatomy
- Plant Pathology
- Plant Physiology
- Political Science
- Psychology
- Rhetoric
- Romance Languages and Literatures
- Scandinavian Languages and Literatures
- Science/Mathematics
- Science
- Social Sciences and Literatures
- Slavic Languages and Literatures
- Statistics
- Wildland Resources
- Zoology

**Plan B**
- Agricultural Chemistry
- Agricultural and Resource Economics
- Ancient History and Archaeology
- Anthropology
- Applied Mathematics
- Astronomy
- Bacteriology
- Biochemistry
- Biophysics
- Biological Sciences
- Botany
- Business Administration
- Chemical Engineering
- Chemistry
- City and Regional Planning
- Classical Archaeology
- Classics
- Emphases: Greek, Latin
- Comparative Pathology
- Computer Science
- Demography
- Dramatic Art
- Economics
- Education
- Endocrinology
- Engineering
- Environmental Science
- French
- Genetics
- Zoology
Intercampus Exchange Program. A graduate student registered on any campus of the University may go to another campus of the University as an Intercampus Exchange Graduate Student with the approval of the adviser, the chairperson of the department in which study is proposed, the Dean of the Graduate Division on the home campus, and the Dean of the Graduate Division on the campus visited. This program will also include those students who take courses on more than one campus of the University in the same quarter.

Application forms for the Intercampus Exchange Program for Graduate Students may be obtained from the Office of the Dean of the Graduate Division on the student's home campus. To avoid penalties for late filing of the study list, the application form should be completed and filed at least three weeks before the opening of the quarter of enrollment in the program.

It is anticipated that this privilege will be used by graduate students who seek the opportunity for association with certain scholars or with fields of study not available on their home campus, or who seek the use of special facilities and collections. Whenever possible, personal arrangements between faculty members on the two campuses should be made so as to insure that the courses, seminars, or facilities will be available to meet the student's needs. This privilege will be granted where evidence of serious and high-quality scholarship is available.

Although the Intercampus Exchange Student registers and pays fees on the home campus, such a student has library, intramural, and other student privileges on the host campus. The exchange student should make arrangements with the Office of Admissions and Records to follow the enrollment of the host campus so that grades obtained in courses taken here will be transferred to the record on the home campus. An exchange student is considered a graduate student in residence on the home campus. The enrollment of the Intercampus exchange student is not transferred to the host campus and formal admission to the host graduate school and department is not granted. Unless specifically restricted, holders of fellowships may participate in the Intercampus Exchange Program.

Stanford-California Exchange Program. Graduate students with superior academic records may participate in the Stanford-California Exchange Program, with the approval of the Graduate Division and the department, when it is deemed desirable for them to take a limited amount of work in courses offered at Stanford and not available at Berkeley. Normally, students are not allowed to participate in the Exchange Program until they have completed at least one year in residence. Under exceptional circumstances, students may be allowed to participate in the Exchange Program before they have completed one year in residence. In such cases, the student must obtain the approval of both the department and the Dean of the Graduate Division.

Intensive language study is offered in Arabic at Cairo, in Japanese at Tokyo, and in Mandarin Chinese at Taipei. Further information on all the above programs may be obtained from: Office of International Education, 2538 Channing Way, Building D, Room 104, University of California, Berkeley, CA 94720.

Intensive Study Opportunities in Professional Studies Program in India. The Professional Schools at Berkeley conduct a program in New Delhi. A student earns credit for internship work in local government agencies appropriate to his or her professional interest, and enrolls in an Indian University.

For additional information on all the above programs, write to: Office of International Education, 2538 Channing Way, Building D, Room 104, University of California, Berkeley, CA 94720.

Financial Aid and Employment Opportunities for Graduate Students

Fellowships and Graduate Scholarships. Awards at Berkeley carry varying stipends. Some awards are restricted to beginning graduate students or to specific departments but most are available in open competition.

Funds for these awards are made from educational foundations, industry, government, and other private sources. Awardees are made available from annual donations from educational foundations, industry, government, and individual benefactors.

Fellowship Information. Information on awards available each year is issued early in the fall. Students should write for information in the late summer or early fall of the year preceding the proposed enrollment at Berkeley. Requests for information should be addressed to the Graduate Admission/Fellowship Office, Room 104, University of California, Berkeley, CA 94720.
Foreign graduate applicants are reviewed, departmental recommendation to the Fellowship Committee for consideration of an award. This will be done entirely by departmental recommendation, not by the applicant's request. Those who do receive fellowship awards will be notified by the Graduate Admission/Fellowship Office on or about April 1. Foreign students not receiving an award will simply be notified of their admission or denial of admission when action has been taken on their application without reference to the April 1 date. Foreign students should not assume that admission carries any assurance of financial support or remission of fees.

Continuing or returning graduate students at Berkeley may obtain the necessary fellowship application material from the Graduate Admission/Fellowship Office. The application and the supporting materials must be filed with the department or graduate group by the date established for filing applications for fellowships and graduate scholarships, December 1.

Announcement of Awards. Awards are announced on or about April 1, and must be accepted or refused, in writing, by April 15. The acceptance of a fellowship or graduate scholarship carries with it the presumption that the incumbent will devote full time to graduate study and research at the University of California. Institutions which are members of the Council of Graduate Schools in the United States or the Canadian Association of Graduate Schools require that anyone who resigns an accepted appointment after April 15 must, in order to become eligible to fill a vacancy in a member institution, receive consent to do so from the university that first made the appointment.

Criteria of Appointment. The number of awards available is limited, and since several thousand new, continuing, and returning students apply each year, the competition is very keen. In assigning awards the Committee on Fellowships and Graduate Scholarships considers:

1. The extent and quality of previous academic work, the evidence of ability in research or other creative accomplishments, intellectual capacity, and the promise of productive scholarship.
2. The total resources available to the student as evidenced in the financial statement, and the determined need.

Supplementation of a fellowship by employment or any other means is possible only by the express consent of the Dean of the Graduate Division, and the amount of supplementation is strictly limited. Persons sustaining fellowships without such approval may face loss of the fellowship and a requirement to repay the fellowship funds disbursed to them.

Honorary Traveling Fellowships. Honorary traveling fellowships may be awarded to distinguished graduate students in any department. Such awards do not carry any stipend, but entitle the holder to official credentials from the University which may be of assistance in pursuit of studies and special inquiries in other states and foreign lands. Applications for honorary traveling fellowships must be received by the same date as for other fellowships, December 1.

National Defense Education Act Fellowships. A number of National Defense Foreign Language Graduate Fellowships are available under Title VI of the National Defense Education Act in certain designated modern foreign languages. These awards are open only to students who are (1) U.S. citizens or have permanent resident status, and are (2) preparing to teach selected languages or related area studies in an institution of higher education or an elementary or secondary school in the United States, or preparing for employment in a governmental, private professional, or technical capacity which would contribute to the welfare of the nation. Students who apply through the regular University Fellowship competition will be considered for these awards without making further application.

Waiver of the Nonresident Tuition Fee. A very limited number of waivers of the nonresident tuition fee is available each academic year. These are awarded to graduate students with distinguished academic records or to teaching assistants, by departmental recommendation, until designated quota are filled. Applicants must be enrolled full-time in a program of study leading to a higher degree and cannot be the recipients of a fellowship, scholarship, grant-in-aid, or other award from a foreign government. Applications can be obtained from the Office of the Dean of the Graduate Division and should be returned to that office by June 1. Awards are usually made during the summer, and applicants are then notified of the action on their requests. There is no waiver privilege for summer session registrants since the nonresident tuition fee is not assessed during the summer. For information regarding the establishment of legal residence in the state of California, see Appendix.

There are also a limited number of Earle C. Anthony Tuition Scholarships covering the nonresident tuition fee open to students who plan to study in the physical and biological sciences, in mathematics, or in engineering. The application procedure is the same as above.

Graduate Minority Program. The primary purpose of this program is to provide financial assistance to U.S. citizens from those minority
groups which are under-represented in graduate programs in relation to their proportion of the population, primarily Blacks, Chicanos, and Native Americans (American Indians).

Awards are made upon evaluation of academic promise and availability of Graduate Minority Program (GMP) funds. The amounts of the awards are based upon need as determined by an analysis of the Free Application for Federal Student Aid need analysis, and range from $100 to $2700 per month or, depending on the University's Registration and Berkeley campus fees.

Applications are available for new graduate students in the Graduate Division's Admission/Fellowship application packet. Continuing and readmitted graduate students apply directly to the Graduate Minority Program office, 1 California Hall, University of California, Berkeley, CA 94720, and should be submitted to that office by the GMP deadline of February 1, if possible.

The GMP award is not expected to meet the student's entire financial need and thus students are urged to apply for financial assistance from all other available sources.

**Teaching and Research Positions.** Salary figures for all positions mentioned in the following sections are subject to United States income tax deductions. Figures given are gross, net, and on a fee basis. Information about salary payment schedules should be obtained when an appointment is offered, since payment for work performed is later than dates when registration fees are due. Appointments carry no guarantee of waiver of the nonresident tuition fee or any other fees. Appointments are for a period of from one to three academic quarters. Reappointment may be recommended. Employment in the summer sessions may be additional and, in some titles, may be full-time. For teaching assistants and teaching fellows, payment is in nine equal installments (three in installments per quarter). Registered graduate students may not be employed by the University in any capacity at more than half-time without the express consent of the Dean of the Graduate Division. Registered graduate students employed half-time by the University are never considered full-time students if they are taking a full academic load, i.e., registered for at least units of upper division and/or graduate work.

**Teaching Assistantships.** Many departments make teaching assistantships available to outstanding graduate students, providing them a salary of $667.67 per month. Appointments are for half-time service. The teaching assistant must be a registered full-time student. Chosen for scholarly achievement and promise as a teacher, the appointee serves as the appropriate fields under active supervision of the regular faculty. In some departments, students working for the Ph.D. degree are required to complete a specified minimum period of teaching as a part of their degree program. Application is made directly to the chairperson of the department in which the student wishes to teach.

**Research Assistantships.** Qualified registered full-time graduate students may seek positions as research assistants in the departments, centers, and institutes of the University. The stipend is $450.00 per month for a half-time appointment. The duration and extent of such employment is variable. Application is made directly to the department, center, or institute.

**Graduate Degrees Offered on the Berkeley Campus**

Academic degrees are the M.A., M.S., M.F.A., and Ph.D. All others are professional degrees. The J.D. in Law is the basic law degree. It is a graduate degree and, although application is made directly to the School of Law, it is under the jurisdiction of the Graduate Division.

Agricultural Chemistry, Ph.D. †
Agricultural and Resource Economics, M.S., Ph.D.
Anatomy, M.A., Ph.D.
Ancient History and Archaeology, M.A., Ph.D. †
Anthropology, M.A., Ph.D.
Applied Mathematics, Ph.D.
Architecture, M.Arch., Ph.D.
Art, M.A., M.F.A.
Asian Studies, M.A., Ph.D. † M.A. program emphasis: East Asian, Southeast Asian, South Asian
Astronomy, M.A., Ph.D.
Bacteriology, M.A., Ph.D.
Biochemistry, M.A., Ph.D.
Biophysics, M.A., Ph.D.
Biorediation, M.Biorad. †
Biostatistics, M.A., Ph.D. †
Botany, M.A., Ph.D.
Buddhist Studies, Ph.D. †
Business Administration, M.B.A., Ph.D.
Chemical Engineering, M.S., Ph.D.
Chemistry, M.S., Ph.D.
City and Regional Planning, M.C.P., Ph.D.
— Classical Archaeology, M.A., Ph.D.
Classics, M.A., Ph.D. M.A. program emphasis: Greek, Latin
Comparative Biochemistry, M.A., Ph.D. †
Comparative Literature, M.A., Ph.D.
Comparative Pathology, M.S., Ph.D. †
Computer Science, M.A., Ph.D.
Demography, M.A., Ph.D.
Design (Visual), M.A., Ph.D.
Dramatic Art, M.A., Ph.D.
Economics, M.A., Ph.D.
Education, M.A., M.A.T., Ph.D., Ed.D.

† Indicates established interdisciplinary group or field.

*Students are not admitted to work for the M.A. degree, although it may be awarded to students pursuing work toward the Ph.D. degree after fulfillment of the appropriate requirements.

**Teaching Fellowships.** An appointee must be a registered full-time student who has been advanced to candidacy for the doctorate, or who has otherwise achieved appropriate professional maturity. The appointee is chosen for competence to conduct the entire instruction of a group of students in a lower division course, under general supervision of a regular faculty member. The stipend is $667.67 per month for a half-time annual appointment. Application is made directly to the individual departmental chairperson.

**Associateships.** The title "Associate" is assigned to teachers employed temporarily and not under consideration for appointment as Instructor or Professor. Services may be either full- or part-time. Associates are employed half-time by the University are never considered full-time students if they must possess a master's degree or equivalent training and have had at least one year of teaching experience (including that of a teaching fellowship or assistantship) in or outside of the University. Registered students who are limited to half-time service, are in a monthly salary range of from $841 to $1,035. Application is made directly to the individual departmental chairperson.

**Education (Special Education), Ed.D., Ph.D. (Joint degree program with San Diego State University.)**

Endocrinology, M.A., Ph.D. †
Energy and Resources, M.A., Ph.D. †

English, M.A., Ph.D.
Entomology, M.A., Ph.D.
Environmental Health Sciences, M.S., Ph.D. †
Environmental Planning, Ph.D.
Epidemiology, M.S., Ph.D. †

Folklore, M.A. †
Food Science, M.S. †
Forestry, M.F.
French, M.A., Ph.D.

Genetics, M.S., Ph.D.
Genetics, Ph.D. (Joint degree program with San Diego State University.)

Geography, M.A., Ph.D.
Geology, M.A., M.S., Ph.D.
Geophysics, M.A., Ph.D.

German, M.A., Ph.D.

Greek, M.A., Ph.D.

Health and Medical Sciences, M.S. program emphasis: Dual Degree Option, Genetic Counseling, UCSF-UCSF Joint Medical Program, Mental Health

Hispanic Literatures, Ph.D.

History, M.A., Ph.D.

History of Art, M.A., Ph.D.

Immunology, M.A., Ph.D.

Immunology, Ph.D. (Joint degree program with San Francisco campus.)

Italian, M.A., Ph.D.

Journalism, M.J.

Landscape Architecture, M.L.A.

Latin, M.A.

Latin-American Studies, Ph.D. †

Law, J.D., LL.M., J.S.D.

Law and Society, M.A. †

Library and Information Studies, M.L.S., Ph.D., D.L.S.

Linguistics, M.A., Ph.D.

Logic and the Methodology of Science, Ph.D. †

Mathematics, M.A., Ph.D.

Medical Anthropology, Ph.D. (Joint program with San Francisco campus.)

Medical Physics, Ph.D.

Microbiology, M.A., Ph.D. †

Molecular Biology, M.A., Ph.D.

Music, M.A., Ph.D.

Near Eastern Religions, Ph.D. (Joint degree program with the Graduate Theological Union)

Near Eastern Studies, M.A., Ph.D.

Neurobiology, M.A., Ph.D. †

Nutrition, M.S., Ph.D. †

...
Certificate in Russian and East European Studies. Students who have had substantial training in the Russian and East European Area in at least two departments and have had 16 quarter units (or equivalent knowledge) of an East European language can, by taking a required number of additional courses in the area, obtain a Certificate in Russian and East European Studies. The certificate course requirements can be fulfilled either as part of a program leading to a higher degree in the social sciences or humanities or after receipt of such a degree.

Certificates of Completion of Graduate Curricula in the School of Library and Information Studies. Three certificate programs have been established which are designed to meet the need for advanced studies beyond the first professional degree (M.L.S.) and short of the doctoral degrees (Ph.D., D.L.S.). The programs will be in the following fields: Bibliography; Library Automation and Information Science; and Library Management. Inquiries should be directed to the School of Library and Information Studies.

Interdisciplinary Groups. See page 21.

Master of Arts in Teaching. The degree of Master of Arts in Teaching is offered by the School of Education jointly with the Departments of Comparative Literature, English, French, German, and Near Eastern Studies. At the present time, it is limited to the five academic fields of study named above. Candidates must satisfy all requirements to be certified to teach in the State of California in addition to completing academic training in one of the four subject fields. Inquiries should be directed to the appropriate academic department and to the School of Education.

Joint Doctoral Programs. Two inter-campus joint degree programs have been established between the Berkeley and San Francisco campuses of the University of California. Immunology — This program leads to the Ph.D. degree in Immunology. The program is additional to the existing independent program on the Berkeley campus and is arranged to allow students to pursue study, on either campus, representing varied interests in immunology. Medical Anthropology — This program leads to the Ph.D. in Medical Anthropology. Admission to both programs is obtained by making application to the campus where the student expects to do research for the dissertation. Near Eastern Religions — A program leading to the Ph.D. degree has been established which will be conducted jointly by the Berkeley campus and the Graduate Theological Union. Applicants should make application both to the Graduate Admission/Fellowship Office on the Berkeley campus and to the Graduate Theological Union. Special Education — A joint doctoral program in special education leading to either the Ph.D. degree or the Ed.D. degree is offered by the University at Berkeley and San Francisco State University. The program is interdisciplinary, including clinical experience as well as preparation in depth in the behavioral sciences and in statistics and research methods. For application material and additional information, write to: Department of Education, San Francisco State University, 1600 Holloway Avenue, San Francisco, CA 94132. Genetics — A joint doctoral program in genetics leading to the Ph.D. degree is offered by the
University at Berkeley and San Diego State University. For application material and additional information, write to: Professor James W. Fristrom, Department of Genetics, 345 Mulford Hall, University of California, Berkeley, CA 94720.

Concurrent Degree Programs. Concurrent degree programs have been established in the disciplines listed below. The aim of these programs is to provide an integrated curriculum of greater breadth between the two disciplines. Inquiries for additional information should be directed to the departments or schools involved.

Business Administration, M.B.A.—Law, J.D. (Berkeley)
Business Administration, M.B.A.—Law, J.D. (Davis)
City and Regional Planning, M.C.P.—Law, J.D.
City and Regional Planning, M.C.P.—Public Health, M.P.H.
Economics, M.A.—Law, J.D.
Library and Information Studies, M.L.S.—History of Art, M.A.
Library and Information Studies, M.L.S.—Law, J.D.
Library and Information Studies, M.L.S.—Nursing Administration, M.N.A.
Nutrition, M.S.—Public Health, M.P.H.
Public Health, M.P.H.—M.D. (School of Medicine, University of California, San Francisco)
Public Policy, M.P.P.—Law, J.D.
Social Welfare, M.S.W.—Law, J.D.

Medieval Studies. Please see Index for further information.

Tropical Biogeography. Registered graduate students interested in doing field research in the tropics may be assisted by the Associates in Tropical Biogeography who among other objectives have that of serving as an advisory committee to the Dean of the Graduate Division.

Teaching Credentials. Work leading to the Multiple Subject or Single Subject Teaching Credentials is available at the Berkeley campus. For details, please consult the Announcement of the School of Education.

Services and Facilities

This section offers a general outline of the services and facilities available at the Berkeley campus. Services include the Student Health Service, Counseling Center, Career Planning and Placement Center, Housing and Child Care Services, Office of Financial Aid, and many others; facilities include libraries, Study Abroad Programs, the Lawrence Hall of Science, the University Art Museum, gymnasiums, student organizations and activities, and many others. Further information may be obtained by writing directly to the appropriate office.

Services

Student Health Service. The Student Health Service offers preventive, educational, and treatment services that are designed to support the good health of students. Most of the routinely needed services are provided to fully registered students at no additional cost. These services include doctor and nurse practitioner visits, contraceptive examinations, pregnancy counseling, and educational programs such as weight control groups, smoking groups and health information. Some outpatient services such as allergy shots, travel immunizations, pre-marital exams, physical exams, dental services and prescription drugs are available for a small fee.

Hospitalization, surgery and other non-SHS emergency care require insurance payment. Students may obtain information about any insurance coverage they have when coming to campus. Full details about SHS insurance and optional insurance for student dependents are available in About Health Insurance and from the Appointments and Information Office, Room 104 Cowell Hospital.

The Student Health Service is located in Cowell Memorial Hospital on the east edge of the campus. Appointments may be made by phoning 642-5012. All fees are paid by the student for all hospitalization. Information is available at the same location.

Since services and insurance information may change from year to year, it is important that all students obtain copies of The Well Body Student Health Manual, About Health Insurance, and Student Health Services Directory (poster listing services, phones and charges) for current information.

The registration fee supported services do not include reimbursement for ongoing care for chronic medical problems or for continuing care of problems diagnosed prior to registration at the University. Injuries sustained in the course of employment may be treated but payments subject to standard Worker’s Compensation Insurance procedures. Treatment for injuries sustained due to the fault of someone other than the injured student will be treated but will not be covered under the registration fee supported program and payment arrangements will be made at the time that service is provided.

Summer services and charges may be different. Students who are registered for summer session should either consult the Summer Sessions Bulletin or the SHS Appointments and Information Office for details. Continuing students who are not registered for summer session but who wish to be charged fee-for-service. For additional information, consult the Appointments and Information Office, Room 104, Cowell Hospital or phone 642-5012.

Financial Aid. The Office of Financial Aid is located at 201 Sproul Hall. By visiting or writing that office you may obtain information about the various types of student aid offered. Undergraduate students may apply to the Financial Aid Office for undergraduate scholarships (including Regents’ Scholarships, which are awarded with or without stipend) and Supplemental Educational Opportunity Grants (SEOG). Both undergraduate and graduate students may apply for University Grants-in-Aid, Educational Fee Grants, National Direct Student Loans, University Loans, Federally Insured Student Loans, Educational Fee Deferral Loans, Work-Study Program, and other aid programs.

All of these forms of aid except honoraria scholarships and prizes are granted on the basis of financial need. Financial need is the difference between the parents’ expected contribution plus the student’s own resources and the allowable educational expenditure. Applications are awarded on the basis of competition or outstanding ability in some area of creative or scholarly achievement. Undergraduate scholarships are awarded on the basis of scholarship and financial need, except Regents and Alumni Honorary Scholarships which are awarded in recognition of outstanding achievement, and the allowable educational expenditure. Information concerning all of these programs except prizes is contained in the publication Financial Aid Information which may be obtained from the Office of Financial Aid. A separate booklet describing the various prizes offered is also supplied on request by the Committee on Prizes, 207 Sproul Hall.

Financial Aid application information for entering undergraduate students is in the Admission Packet. Financial Aid Application forms for entering graduate students are in the Graduate Application Packet. Application forms for continuing undergraduate and graduate students are available at 201 Sproul Hall about December 15. The application deadline for financial aid is February 1.

Information about graduate fellowships and graduate scholarships may be obtained separately from the Graduate Division, 1 California Hall.

Cal Grants (California State Scholarships) are awarded to students on the basis of financial need. Information about Cal Grants is obtained by the State for application to undergraduates and, in some years, to graduates. They range in value from $300 to $600 and apply toward the registration and educational fees. College Opportunity Grants are also awarded by the State and are open to undergraduates who can demonstrate exceptional financial need. The awards range from $1000 to $1700 per academic year. Students may obtain application forms and further information from the California Student Aid Commission, 1410 Fifth Street, Sacramento, CA 95814. The tentative deadline date for application is February 1.

The cost of attending the University varies according to individual circumstances. Approximate costs for the nine month academic year are listed under Fees and Expenses.

Counseling Center. Located in Building T-5, the Counseling Center is available to regularly enrolled students who wish to talk with professional staff about scholastic performance, career choice, personal adjustment, assessing interests and aptitudes, or exploring long-range career opportunities. Group counseling in social skills, personal problems, test anxiety, vocational exploration and decision making, weight problems, and graduate oral and thesis anxiety problems is also available. Psychologically and emotionally testing are provided as part of the counseling process. All communications between students and counselors are treated confidentially.

The Counseling Center maintains a library of reference materials on occupations, professions, career opportunities and a comprehensive collection of college catalogs and directories of colleges, professional schools, and training programs. Students may use these reference materials even if not seeking counseling services.

Special testing for admission to graduate or undergraduate programs (except ETS and Psych. Corp) is administered without cost.

Psychiatric Clinic (Cowell). Students may have an appointment with a staff member of the clinic at any time to discuss matters of concern in any area of personal life. Emphasis is on problems of living rather than “mental illness.” An appointment can usually be arranged within a few days after a request, and students may obtain complete or partial information in individual, group or couple sessions. Information communicated during meetings in the Psychiatric Clinic is held in professional confidence.

Student Advising and Assistance (SAA). This office, located in the Admission Office, provides assistance to students applying to graduate and professional schools. Students interested in careers such as dentistry, law, medicine, nursing, pharmacy, or veterinary medicine can obtain comprehensive advising in these areas, as well as assistance with applications and letters of recommendation to the schools of their choice.
Optometry Clinic. The School of Optometry clinic offers complete optometric services (including contact lens fitting). The clinic is open to students, faculty and the general public. For information or appointment, call 642-5761 or 642-5763, or come to the Optometry Clinic located in Minor Hall across from Cowell Hospital. Patients are seen by third and fourth year optometric interns under the supervision of the clinic faculty.

Student Learning Center and EOP Counseling. Located in Building T-8, the Center offers a wide range of group and individual programs that provide advice and assistance to students in preparing for and planning the University Opportunity Program and aid students in specific courses and in developing effective general learning skills.

Learning Center. Learning Assistants provide individual service in a variety of undergraduate courses. There are also non-credit mini-courses in reading improvement, writing, and study skills. Other group sessions include preparation for graduate and professional school exams. The Center’s Library-Lab contains non-circulating study skills and a world of programmed learning materials for a number of courses. Handouts are available on specific study skills in various disciplines. The lab has programs for improving reading, note-taking and vocabulary.

The Center gives priority for individual assistance to EOP students, faculty, and staff. Program directors and counselors assist students with various problems that can affect scholastic performance, e.g., housing, financial aid, and personal concerns. The EOP Counseling Component is located in Room 220, Building T-8, Telephone: 642-7332.

EOP Counseling. The EOP Counseling Component is a guidance service that helps EOP students to realize their potential and achieve academic success. Undergraduate counselors assist students with various problems that can affect scholastic performance, e.g., housing, financial aid, and personal concerns. The EOP Counseling Component is located in Room 220, Building T-8, Telephone: 642-7224.

Special programs offered through EOP include: (1) the Summer Program for Prospective, offered during the Summer Session to new EOP students to help orient them to the University; (2) the Student Involvement Program, designed to aid new students in their social and personal adjustment to the University (new students are matched with continuing students by major or by academic interests); and (3) Peer Advising Services, which are available to assist EOP students with pre-enrollment, registration, career selection, and other informational matters.

Office of the Ombudsperson. The Ombudsperson assists students and academic personnel with problems which seem insoluble by the usual procedures and agencies. If you have reached a procedural impasse or feel you have been treated unfairly, you may wish to consult this office. Counseling staff are available to assist students with various problems that can affect scholastic performance, e.g., housing, financial aid, and personal concerns. The Ombudsperson is composed of three units in two locations to serve the campus. A Career Information Library is available. During the academic year, staff arrange on-campus interviews with employer representatives and other activities. Career planning and placement services are available to assist students and alumni with their career planning needs. Weekly resume writing and interviewing workshops are held at the Career Planning and Placement Center and a variety of special projects related to career development are coordinated with other student service units and conducted on campus.

Advisers to Foreign Students and Scholars. This is the Office that is concerned with all aspects of the foreign student’s and scholar’s experience in Berkeley. It offers a wide range of services to foreign students and scholars on campus, including orientation programs for new students, guidance on visa matters, help in solving financial difficulties, health care counseling, and advice on personal problems. The Office provides information on almost any topic that would be of special interest to foreign students or scholars. Located in International House, 2299 Piedmont Avenue (642-2818), the Office is open Mondays through Fridays from 9AM to 4PM.

The Program Office, also in International House (642-9460), plans trips to neighboring communities, industries, and places of geographical interest, cultural events, dances, parties, and slide shows, to enrich the extra-curricular life of foreign students and scholars at UC Berkeley, and to introduce them to American institutions, customs, and families.

Career Planning and Placement Center (Student Employment Services). The Center is composed of three units in two locations to serve career planning needs and employment of students and alumni.

Students, and their spouses, seeking part-time, temporary, odd-job, or vacation employment should go to the office in 111 Wheeler Hall. Assistance in finding a job is provided by helping students identify situations and areas of work for which they are qualified.

(Students interested in work-study should go to the Office of Financial Aid, 211 Sproul Hall. See page 27, Financial Aid.)

Individuals seeking positions in business, industry, government, social services, and non-profit organizations should go to the Career Center in 111 Wheeler Hall. Advisers are available to assist students and alumni with their career planning needs. Weekly resume writing and interviewing workshops are held at the Center, in addition, a host of Career Information Programs and a variety of special projects related to career development are coordinated with other student service units and conducted on campus.

Living Accommodations. There is a wide selection of housing at the Berkeley campus. Admission to this campus does not guarantee housing reservations. You should acquaint yourself, well in advance of your enrollment, with the various living arrangements. Undergraduates check the appropriate section on the Application for Admission to receive descriptive material; graduates should write directly to Housing and Child Care Services, 2401 Bowditch Street, Berkeley, CA 94720, to receive de-
scriptive material. This office also maintains rental listings, but you must visit the office after you arrive on campus to make use of files, which change daily.

More than 3,000 men and women live in University residence halls. An equal number live in fraternities, sororities, cooperatives, and boarding houses. There are apartments for 1,022 in University Family Student Housing. Early application to living groups is recommended. The remaining 3,578 live in rooms and apartments in the community. Students consider their individual wishes and needs and select their own accommodations.

International House. International House is a coeducational residence and program center for American and foreign students, primarily at the graduate level. Cultural and social events, home hospitality, tours and visits around California are designed to promote better understanding and friendship among all nationalities. For application and further information, write or call the Residence Office, International House, University of California, Berkeley, CA 94720; telephone number (area code 415) 642-9470 or 642-9490.

Child Care. The Child Care Program is available to registered students, and provides care for more than 200 children between the ages of three months and five and a half years. Families with the lowest income have the greatest priority. Two hours weekly parent participation is required. Application deadline is August 18 for the academic year. Late applicants are placed on a waiting list. Applications and information: 2537 Haste Street, Berkeley, CA 94720; telephone (area code 415) 642-9477. Address questions to the Child Care Services, 2401 Bowditch Street, Berkeley, CA 94720.

Social Security Benefits. If you have questions regarding Social Security benefits, inquire at the Office of Admissions and Records, 120 Sproul Hall.

Facilities

The University Libraries. The Berkeley campus library system consists of the Main Library, the Moffitt Undergraduate Library, 21 branch libraries, and numerous special libraries. The combined holdings of the libraries total more than 4,800,000 volumes, 96,000 current serial publications, 37,000,000 manuscripts, 842,000 books, 900,000 pamphlets, 900,000 microfilms, 247,000 maps, and 33,000 sound recordings.

A student is entitled to use the libraries, upon presentation of his/her registration card. Hours are from 8 a.m. to 10 p.m. during the week; borrowing privileges and access to the collections vary from unit to unit. For more information about the campus library system, please inquire at the General Reference Desk in the Main Library or at the Research Desk in the Moffitt Undergraduate Library.

The Gutenberg Express. The University Libraries of UC Berkeley and Stanford University provide interlibrary services to faculty and advanced graduate students and, in special cases, to other graduates and to advanced undergraduates. Together the libraries have about 9,000,000 volumes, a combined research collection that is one of the richest in the world. Transportation between the two libraries is available on the “Gutenberg Express,” a bus service that leaves every 10 minutes except holidays at 8:30 and 10:30 AM and at 1:15 and 3:15 PM.

The Main Library. Most of the UC Berkeley humanities and social sciences materials, and the central services for acquisition, cataloging, interlibrary loans, serial publications, and photographs are located in the Main Library. In addition to the bibliographical aids to research offered by the General Reference Service, special service or specialized reference assistance is given by the Documents Department, Art History/Classics, Humanities Graduate Service, Morrison Library, Map Room, Newspaper and Microcopy Room, and Periodical Room.

The Bancroft Library is located at the east end of the Main Library and houses the major manuscripts and rare book collections of the Berkeley campus. Here one finds: the Bancroft Collection, specializing in the history of western North America (including Mexico) with a heavy concentration on the Bancroft Rare Books Collection, emphasizing literature, fine printing, and the history of science and technology; the Mark Twain Papers, the largest extant archive of an American author; the Regional Oral History Office, housing recorded interviews with prominent Californians; and the University Archives, containing the historical records of the University campus. Materials are non-circulating. There is also a Press Room where classes are taught in printing and type design. A Seminar Room provides space for small meetings at which Library materials may be employed. On public display at the Library’s Gallery are rotating exhibitions and selections from the Bancroft’s permanent pictorial collection.

Travelers' and X. K. Moffitt Undergraduate Library.

Moffitt Undergraduate Library. An open stack core collection of 158,000 volumes and 475 serial titles, designed to provide a convenient point of entry into the complex library system for Berkeley’s 20,000-plus undergraduate students, is available in the Moffitt Undergraduate Library. Reserve materials assigned for reading in most undergraduate courses as well as carefully selected materials in all subject fields.

Branch Libraries. The Branch Libraries are located near the departments whose faculty and students use them most. They include the Biochemistry, Biology, Optometry, and Public Health libraries; the Agriculture, Entomology, Forest Products, Forestry libraries; the Astronomy/Mathematics/Statistics/Computer Science, Chemistry, Physics, Chemical Engineering, and Physics libraries; the Anthropology, Graduate Social Science, Library School, and Social Welfare libraries; and the East Asian, Education/Psychology, Environmental Design, and Music libraries.

Special Libraries. Among the most important Special Libraries are those of the Center for Chinese Studies, the Giannini Foundation of Agricultural Economics, the Institute of Governmental Studies, the Institute of Industrial Relations, the Institute of Transportation Studies, the School of Law, and the Water Resources Center.

Language Laboratory. The Language Laboratory is located in the basement of the southernmost wing of Dwinelle Hall. The Laboratory has listening positions for 180 or more students at one time plus videocassette viewing positions for 11 more. The tape library has more than 10,000 reels in seventy-five languages. Most are language lessons, but there are foreign literature readings as well. Facilities are normally scheduled for languages with large enrollments, but random access is arranged to the extent that facilities permit. Some of the popular language lesson series are available in a lending collection for home study. Copies of some of the Laboratory’s materials may also be bought at cost. In addition to study rooms, the Laboratory offers certain exotic languages is available by application at the Laboratory office.

Sports and Recreation. Harmon Gymnasium and Hearst Gymnasium are equipped with swimming pools, as well as squash, handball, volleyball, and tennis courts. The Physical Education Department also oversees a variety of outdoor facilities. They are open throughout the year, free of charge, primarily to students of the University, who may obtain, upon presentation of a current registration card, a locker and free use of gym clothing and equipment. Hours during which facilities are available for recreational use are posted in the gymnasium.

A wide variety of instructional, intramural, extramural, intercollegiate, and recreational athletic programs and sports clubs are run by the Department of Physical Education, Department of Intercolligiate Athletics, Department of Women’s Intercolligiate Athletics, Department of Intramural Sports and Recreation, and UC. Strawberry Canyon Recreational Area serves the entire University community with swimming pools, lounging, play, and picnic-barbecue areas. Further information may be obtained by calling Haas Clubhouse, 642-5575.

Dining. The Dining Commons is just north of the Student Union. On Sproul Plaza level: The Terrace provides hot meals, breakfast and lunch; grilled or wrapped sandwiches; hot tasty soup and a selection of hot entrees in addition to fast food and a variety of hot dogs. The Golden Bear features luncheon, with table service; a menu selection of Salad Bar, Hot Brau Sandwiches, grilled items and two full menu Hot Entrees, sandwiches and a variety of desserts. The Fence provides carry-out snack service. On the lower plaza level: The Cafeteria serves a la carte hot lunch items, a variety of snack items, and features a mini Hof Brau with meats carved to order. Also in the Cafeteria building is The Deli featuring made-to-order sandwiches from a large display of delicatessen meats and cheeses; delicatessen; coffee, made from coffee beans freshly ground. For carry-out service call (642)-7314 between 8:30 and 10:30 AM, and your order will be ready to pick up. The Ice Creamery, located in the southwest corner of the Cafeteria (toward Zellerbach), serves many flavors of ice cream.
cones, floats, malts, milkshakes and sundae to be enjoyed at tables inside or on the patio, or carry-out. An outside area, adjacent to The Deli, on the lower plaza, has full-line vending with sandwiches, hot and cold beverages and snacks. The Soup/Salad/Pizza area is located on the south end of the dining area around the corner from the deli. The Commons also operates a catering service for special functions and student activities on campus, a Mobile Unit—The Oskimobile—makes scheduled stops at various locations with snack and sandwich service; and there is an Office Coffee plan. A snack area specializing in made to order sandwiches, deli salads and soups is located in Wurster Hall. In addition, coffee shop service is available at 24 University Hall. To arrange for Catering or Office Coffee Service call (64) 2-3620.

Student Union and Student Center. The Student Union, located on Bancroft Way at Telegraph Avenue, is a focal point of student activities and recreation. It contains lounges, meeting rooms, Pauley Ballroom, an art exhibit area, a game room, a meditation room, a bowling lanes, billiard tables, a barber shop, a garage, a bicycle shop, a creative arts studio, the Bear's Lair Pub, and facilities for the ASUC musical organizations. Operating costs of the Student Union are largely financed by revenues from ASUC enterprises. The Oskimobile—makes scheduled stops at Eshleman Hall, the student office building located in 239 Evans Hall, serves the entire A.S.U.C., Senate Chambers, and many student activities. Zellerbach Auditorium, the Dining Commons, Ludwig's Fountain, and the Lower Sproul Plaza complete the Student Center.

Computer Center. The Computer Center, located in 239 Evans Hall, serves the entire campus by providing and operating a Control Data 6400 system to meet the instructional and research needs of the campus, and (2) the development of both hardware and software. A program library and a consultation service are maintained to provide information about the operation and programming systems to assist users. In addition to programming consultation, the Center has an applications programming group which will undertake programming tasks for users. The Center also provides a key-punching service for those who use the computer.

Lawrence Berkeley Laboratory. Stretching up the wooded hills of the Berkeley campus is Lawrence Berkeley Laboratory (LBL), a national scientific and engineering research facility. The Laboratory is named for its founder, the late Ernest O. Lawrence, who invented the cyclotron in 1929 and subsequently attracted to his lab an outstanding group of researchers who have gained world renown and eight Nobel Prizes. Three of the basic kinds of accelerators—the cyclotron, the linac and the synchrotron—were invented and developed at Lawrence Berkeley Laboratory. LBL scientists were involved in the discovery of most of the unstable elementary particles and all of the 14 known transuranium elements; the basic steps in photosynthesis were first unraveled at LBL, and the field of nuclear medicine was pioneered at this Laboratory. Today, the Laboratory's scope includes seven research divisions: Accelerators; Biology and Medicine; Chemical Biodynamics; Energy and Environment; Materials and Molecular Research; Nuclear Science; and Physics, Computer Science and Mathematics. Researchers in these divisions are carrying out basic and applied investigations in areas including physics, chemistry, biology, environmental science, and health sciences. The Laboratory also maintains a comprehensive book, stationery, special supplies store, an information center, a visitors center, bowling lanes, billiard tables, a barber shop, a garage, a bicycle shop, a creative arts studio, the Bear's Lair Pub, and facilities for the ASUC musical organizations. Operating costs of the Student Union are largely financed by revenues from ASUC enterprises.

Over 2,400 people work at the Laboratory, which includes 54 buildings that cover more than 120 acres in the Berkeley Hills. Many UC faculty members in the physical, biological and engineering sciences hold staff appointments at LBL. In addition, approximately 100 UC graduate students work at the Laboratory annually. The Laboratory also attracts post-doctoral researchers from throughout the United States and foreign countries who spend from one to several years conducting research at LBL.

Lawrence Hall of Science. The Lawrence Hall of Science is both a public science center and a research unit in science education at the Berkeley campus. Its mandate is to increase the public's awareness and understanding of science; its aim is to involve people with scientific concepts in a direct and personal way. Visitors to the Hall operate science demonstrations in astronomy, biology, chemistry, mathematics, or physics. They can use computer terminals for programming and logic games, and discover a pulsar in a simulated "sky window." Planetarium shows enable the audience to participate in the latest developments in modern astronomy, and orbiting models allow visitors to study upon request, and various exhibitions are prepared for university classes and seminars. A group show by candidates for the Master of Fine Arts degree is displayed each year. Through its Special Events Program, the Museum offers concerts, dance, art performances, theatre, and poetry readings, as well as a free series of noon lectures on art. Additionally, in special public meetings, visiting artists discuss their work with students, faculty, University staff and the general public.

Through the Community Art Education Program, University undergraduates present gallery tours, workshops and art festivals and receive academic credit for their training and work experience. Twice monthly, faculty and students lead Sunday gallery discussions. Over 9,000 visitors participate annually in these programs.

The Pacific Film Archive, one of the major film exhibition centers in the country, offers over 800 film programs annually, maintains a study collection of 3,000 prints, and provides facilities and a media information service for both film study and research screening. Free film showings for school classes are held twice weekly.
The University Art Museum Council offers membership to UC students at a reduced rate and is open for general membership in several categories. Memberships include a discount at the Museum Bookstore, invitations to preview receptions, and opportunities to join other art-oriented activities sponsored by the Council. Museum hours are 11 AM to 5 PM, Wednesday through Sunday. Admission is free.

**Lowe Museum of Anthropology.** The primary purposes of the Robert H. Lowe Museum of Anthropology since its creation in 1901 have been the quality of scholarly research, the training of undergraduate and graduate scholars. Qualified students in fields other than anthropology are especially encouraged to use the Museum’s collections for independent, original research projects under professional supervision.

With its modern facilities in 103 Kroeger Hall, the Museum serves a number of academic departments both at Berkeley and at other University campuses; educational institutions in the San Francisco Bay Region, as well as civic groups and qualified members of the general public, also utilize its facilities, although the Museum’s primary responsibilities are to the University of California. Faculty members both within and outside the Department of Anthropology hold curatorial positions. Exhibits and collections are used for instruction and research over a variety of courses.

There are currently 495,000 cataloged specimens in the Museum, which include 240,000archaeological and ethnological specimens from California; 110,000 from other parts of the Americas; 45,000 from Oceania; 51,000 from Europe, Asia, and Africa; and 10,000 entries of human skeletal materials. In undergraduate teaching, small classes meet regularly in the study-out buildings and larger classes, members are laid out for examination and study in other Museum areas or are selected for demonstration in classrooms. Exhibits are installed for class assignments, discussion, and individual study in the Museum’s Exhibit Hall. Changing exhibits are maintained at other points on campus. The Museum is open to the public weekdays 10 AM to 4 PM, and weekends 12 noon to 4 PM.

**Botanical Garden.** The Botanical Garden was established in the early 1890’s and transferred to its present location of 32 acres in Strawberry Canyon in 1928. Although relatively small in area, the Garden includes the world’s largest collection of herbaceous plants, 32,000 species. In addition, there are 1,400 different plants native to the world’s deserts. The Botanical Garden is an important resource for instruction and research for the University and other educational and scientific institutions throughout the world. The Graduate Assembly offers an educational program for the general public that includes docent-conducted tours of the various plant collections; Group tours may be arranged for groups of 15 or more. In the fall of the academic year, the Garden is open to the public daily except Christmas, from 9 AM to 5 PM. There is no admission fee.

**Student Organizations and Activities**

The ASUC. The Associated Students of the University of California is the official organization for student government. The office of the Executive Director is located in 211 Eshleman Hall. There is something in bloom every month and makes funds available to departmental or student organizations and activities at practically no cost. Another activity of the ASUC is the operation of the campus radio station, KALX-FM. In addition to its facilities in the Student Union complex, the ASUC owns and operates Cal Ski Lodge at Norden, California, and a bicycle parking lot at Moffitt Library on campus.

Graduate Assembly. The Graduate Assembly is the student organization that is primarily concerned with matters pertaining to graduate students. Graduate departments send representatives (one per department plus one additional representative for each 100 graduate students) to the Assembly meetings and which are held monthly during the academic year. The Assembly is funded by a fixed percentage of the ASUC fee. The Assembly elects six administrative officers and two representatives to both the ASUC Senate and the Graduate Council of the Academic Senate. The Assembly also nominates graduate student members to the student-elected graduate student members to Committees of the ASUC and the Academic Senate and to advisory committees to the Chancellor. An Assembly officer sits on the universitywide Student Body Presidents’ Council, which makes policy for the UC Student Lobby. Graduate students of the Assembly are organized into working committees to concentrate on phases of publishing: writing, editing, reporting, and making contact with the general public. There is something in bloom every month of the year.

The largest collection is that of cacti and other succulent plants from western areas. Many of the succulents are either on African Hill or in the New World Desert areas. The arrangement provides a unique opportunity to compare and contrast these botanically similar but ecologically different plants of Old and New World deserts. Native plants of California occupy the largest area devoted to a regional collection, and are arranged to demonstrate the plant communities of the state such as the chaparral, riparian woodland, and the joshua tree woodland. Special collections include the California Pelican —a quarterly magazine; Berkeley Poetry Review—a collection of student poetry published quarterly. Located in Pelican Building.

**Lectures, Music, Drama, Dance, Debate.** The University offers a broad variety of extracurricular activities in the humanities. These include:

**Committee for Arts and Lectures (CAL)** — a year-round program of drama, music, dance, films, and lectures. Some events are open to students and to the University community without admission charge. For those events requiring tickets, a reduced rate is usually available for registered students. Brochures announcing Committee events may be obtained at the CAL Box Office, 101 Wheeler Hall, or at the Information Desk of the Student Union. For information, or to make telephone reservations, call 642-2561.
Music — a large selection of student groups, including the Student Concert Chorale, Student Chamber Singers, Octet, deciBelles, Jazz Ensembles, California Marching Band, and other groups in the Music Department, such as University Chorus, which students may join for academic credit. There are also weekly noon concerts, open free of charge to the general public. San Francisco Symphony tickets are available to students at special prices. For additional information, contact the Office of Student Activities and Programs, 103 Sproul Hall.

Theater and Dance — The Department of Dramatic Art offers a series of play productions to all registered students interested in acting, design, or stagecraft. In addition, there are concerts and choreographic workshops in modern dance techniques. An in-residence dance company gives concerts and demonstrations throughout the year in schools and community centers on the West Coast. Unit credit may be earned by work in play and dance production.

Debate — Varsity Debate and individual events, open to both veterans and novices, constitute the Forensics Program of the Berkeley campus. For additional information, contact the Office of Student Activities and Programs, 103 Sproul Hall.

For information about other campus events, please consult the Information Desk in the Student Union.

Special Interest Clubs. Besides regular ASUC-sponsored activities, there are more than 250 registered student organizations on campus serving special interests and abilities. In the spring and fall of each year, an Activities Fair is held in Sproul Plaza to acquaint you with many of the organizations and to give you an opportunity to join.

Academic and professional societies, including clubs organized by many of the schools and departments, as well as national professional fraternities, provide opportunities for seminars, discussions, lectures, and communication with members of academic or professional fields. Honorary academic societies are open to students of outstanding scholastic ability. These groups include: Honor Students’ Society; Phi Beta Kappa (a national society of historical renown, open by invitation to the top seniors in nonprofessional fields); Tau Beta Pi (a national society of upper division students in the College of Engineering and in Chemical Engineering); and various other groups within the several disciplines. Most of these groups offer tutoring services.

Hobby and recreational groups abound. While the University, as a State-supported institution, does not offer chapel services or religious activity on campus, there are more than 35 churches and student religious clubs located within a few blocks of the campus. For additional information, contact the Office of Student Activities and Programs, 103 Sproul Hall.

Women’s Center. The Center for Continuing Education of Women (Women’s Center) is located on the north end of campus, Building T-9, Room 100. Hours are 9AM to 5PM (including the noon hour), Monday through Friday. The Center provides workshops and individual counseling for academic and vocational planning, and a library of resources for research about women, and several series of public programs on current issues regarding women. The Center is open to all interested persons from the campus and the community.

Research at Berkeley

The Berkeley campus is renowned for its programs of faculty and graduate student research, which are conducted within teaching departments and organized research units. In some instances, special departmental laboratories have been established to provide essential services to instruction and research projects.

Organized research units are established and administered separately from the teaching departments. These units are designed to be interdisciplinary in nature and organized around the work of a group of faculty and graduate students whose research interests are more general in nature than can easily be encompassed in a single discipline. While the organized research unit aims primarily to support the research of faculty and to assist in graduate student training, public service and in some instances a degree of mission orientation may be appropriate.

Organized research units may bear the designation of Institute, Center, Laboratory, Museum, Station, or other titles, depending on the nature of the activity supported and the organization visualized when a particular unit was established. These units are grouped administratively according to the breadth of interest they represent. The grouping may be within the Graduate Division, a School, or a College. Specific administrative groupings are as follows:

School of Business Administration
Center for Research in Management Science

College of Engineering
Earthquake Engineering Research Center
Electronics Research Laboratory
Operations Research Center
Sanitary Engineering Research Laboratory
Sea Water Conversion Laboratory
Institute of Transportation Studies

College of Environmental Design
Center for Planning and Development Research

Graduate Division
Bodega Marine Laboratory
Institute of Business and Economic Research
Center for Research and Development in Higher Education
Institute of Human Development
Institute of Industrial Relations
Institute of International Studies
Center for Chinese Studies
Center for Japanese and Korean Studies
Center for Latin American Studies
Center for Slavic and East European Studies
Center for South and Southeast Asia Studies
Lawrence Hall of Science
Institute of Race and Community Relations
Space Sciences Laboratory
Survey Research Center
Institute of Urban and Regional Development
Center for Real Estate and Urban Economics
White Mountain Research Station
School of Law
Earl Warren Legal Institute
Center for the Study of Law and Society

College of Letters and Science
Archaeological Research Facility
Field Station for Behavioral Research
Cancer Research Laboratory
Institute of International Studies
Jepson Herbarium
Institute of Human Learning
Lowie Museum of Anthropology
Center for Pure and Applied Mathematics
Museum of Paleontology
Institute of Population Assessment and Research
Laboratory of Radio Astronomy
Seismographic Stations
Museum of Vertebrate Zoology

School of Library and Information Studies
Institute of Library Research

College of Natural Resources
Agricultural Experiment Station
Giannini Foundation
Forest Products Laboratory
Wildland Research Center
International Center of Biological Control

School of Public Health
Naval Biosciences Research Laboratory

Lawrence Berkeley Laboratory
Accelerator Research Division
Biological Sciences Division (Donner Laboratory)
Chemical Division (Department of Chemical Sciences)
Chemical Biodynamics Division (Laboratory of Chemical Biodynamics)
Energy and Environment Division
Materials and Molecular Research Division
Nuclear Science Division
Physics, Computer Science and Mathematics Division

In addition to the officially established organized research units, there are numerous special facilities for the support of faculty and student programs.

General

The University Press. The University of California Press, located at 2223 Fulton Street, is one of the largest university presses in the country. It publishes scholarly books, books of general interest, about twenty monograph series, a line of quality paperbacks, and some thirty scholarly journals. Books and paperbacks number about one hundred and fifty each year. The press serves the interests of the University equally; its publishing program carries the work of the faculty beyond the campuses themselves.

Office of Publications. Located at 2120 Oxford Street, the Office of Publications acts as publishing house to the Berkeley campus. A small, highly professional staff provides services in the planning, writing, editing, designing, illustrating, and manufacturing of administrative and informational publications. The main body of work is in support of the educational mission of the University and includes the General Catalog, announcements of the schools and colleges, and the Schedule of Classes. These, together with over 300 other works in an average year for colleges, schools, departments, and diversified campus units, present information to such disparate readerships as past, present, and prospective students, faculty and administrators on this and on other campuses, and the general public.

The publishing program is characterized more by its function in support of teaching rather than by the method used in reproduction (offset or letterpress printing, serigraphy, and the like). Although books, syllabi, texts, and similar items are not normally produced by the staff, consultation and assistance are available either in direct conference or by telephone, 642-0702.

The Alumni Association. For more than 65,000 former students of the University, membership in the Alumni Association is a means of keeping in touch with Berkeley and working for the continued welfare of the University and its student body. The Association administers the Alumni Proprietary Fund which annually awards more than $125,000 to some 600 deserving undergraduates. (The funds are donated by individual alumni and channelled through the UC Berkeley Foundation.) The Alumni Association also sponsors a series of career planning and information seminars and the annual Career Fair and Health Sciences Fair, and maintains a file of Career Information Aides who are available for individual consultations with students. It offers free income tax counseling for students, presents orientation programs for new and prospective students and their parents, and develops a summer job leads through the Cal Jobs program.

Among the many benefits enjoyed by Association members are the award-winning publication, California Monthly; free UC library and language laboratory privileges; access to the Lair of the Bear summer vacation center and to the "Berkeley Experience" summer program on campus; year-round charter flights and tour programs; and discounts on selected University Press books and subscriptions in the University Art Museum and Lawrence Hall of Science. Through its awards program the Association recognizes distinguished alumni achievement and outstanding service to the University, its alumni, and the community. The Distinguished Teaching Awards for faculty are also sponsored by the Association. The Alumni records department is the official campus office maintaining information of former Berkeley students. A statewide network of Alumni Clubs helps members stay in close touch with the University and with one another. Information on all Association activities, including young alumni and club programs, alumni events on Charter Day and Commencement, and special activities is available at the Association's campus headquarters, Alumni House, where students and alumni are always welcome.

Study Abroad for Undergraduate Students. You have a number of opportunities to earn University of California credit while studying abroad. The University Study Abroad Program has study centers at the following universities:

Africa
University of Ghana, Legon-Accra
University College, Nairobi

Asia
Chinese University of Hong Kong
International Christian University, Tokyo, Japan

Central America
National Autonomous University of Mexico, Mexico City

Europe
Universities in France: Bordeaux, Grenoble, Marseille, Paris (Collèges), Pau, Paris, Poitiers
Georg-August University, Goettingen, Germany
University of Dublin, Trinity College, Ireland (a part of the United Kingdom and Ireland program)
University of Padua, Italy; Academy of Fine Arts, Venice; G.B. Martini Music Conservatory, Bologna
University of Bergen, Norway
Universities in Spain: Barcelona, Madrid

University of Lund, Sweden
State University of Leningrad, USSR


Middle East
Universities in Israel: Haifa, Jerusalem (Hebrew University)
American University of Cairo, Egypt

South America
University of Sao Paulo, Brazil

Requirements for participation are a grade-point average of 3.0, upper division standing, and sufficient language preparation. Nine quarters of Russian are required for U.S.S.R. The equivalent of six quarters of the host language is required for the centers in France, Germany, Mexico, and Spain. Three quarters of the host language or the equivalent are required for Brazil, Israel, Italy, Japan, and Scandinavia. (If the student agrees to attend a required summer session immediately prior to the academic year program at additional cost). The centers in Africa, Egypt, Hong Kong, and the United Kingdom have no language requirements, but appropriate academic preparation is necessary.

Full credit is given for work taken overseas, but it is the students' responsibility to obtain the approval of their department or college for their study plans before departure. Undergraduate programs are intended primarily for juniors, but seniors may also participate. However, seniors should inform themselves of residency requirements and unit limits. University scholarships, loans, and grants may be used to finance the year abroad.

Berkeley also participates in several intercollegiate consortia for advanced language studies: Rome Classics Program (requiring Latin fluency), Japanese language study in Tokyo, Korean Chinese study in Taipei, and Arabic study in Cairo.

Graduate students may study in most of the programs subject to the approval of their advisers and the Graduate Division. One year of graduate study must have been completed prior to the year abroad.

If you are interested, consult your academic advisers and the study abroad counselor in the International Education Office, 2538 Channing Way, Building D, Room 104.

University Police. Police service is available twenty-four hours a day at the University Police Department, Room 2, Sproul Hall, or by telephoning: Emergency (64)2-3333, Business (64)2-6760. The emergency number should be utilized to report any occurrence requiring immediate response, including fires or ambulance service. Other services are also available from the Police Department, such as providing assistance and counseling in crime prevention and personal protection, including Triage and Training (64)2-6760; Operation Identification, engraving of personal property to protect against theft; Bicycle Bureau, located in the Old Art Museum at the end of Barrows Lane, issuing State of California bicycle licenses and advice on bike security (10AM to 2PM, Tuesday through Saturday); Lost and Found service located across from Room 2, Sproul Hall (10AM to 4PM, Monday through Friday, telephone (64)2-4936). There are employment programs in the Department for UC students to work as Police Aides as well as Federally funded Police Apprentice positions for members of the community. For all emergency services including police, fire, or ambulance, call (64)2-3333.

**Fees** and Expenses

It is extremely important that students carefully consider the total financing of their education, from the entering quarter to the completion of

*Fees are subject to change without notice.*
the degree objective. If financial help will be needed, beyond those funds which the student or the family are able to provide, the student should make the necessary applications for financial assistance well in advance of enrollment. Students should pay particular attention to early deadline dates of application for grants, scholarships, Work-Study, and National Direct Student Loans. While the needs and resources of each student differ, the University can provide a general list of fees and expenses normally encountered.

Part of the fees may be refunded to students who cancel their registration prior to the opening day of the quarter or who withdraw before the beginning of the sixth week of classes of any quarter. (See Index, Schedule of Refunds.) A separate circular on refunds, \textit{Student Fees and Deposits}, is also available. This circular is available from the Office of Admissions and Records, 120 Sproul Hall.

\textbf{Table of Fees and Expenses}

At the time of registration, by mail or in person, the following fees are paid by each student.

<table>
<thead>
<tr>
<th>Student Category</th>
<th>Fall, Winter, or Spring Quarter 1977-78</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident Undergraduate</td>
<td>$236.50</td>
</tr>
<tr>
<td>Nonresident Undergraduate</td>
<td>$871.00</td>
</tr>
<tr>
<td>Foreign Undergraduate</td>
<td>$901.50</td>
</tr>
<tr>
<td>Resident Graduate</td>
<td>$256.50</td>
</tr>
<tr>
<td>Nonresident Graduate</td>
<td>$891.50</td>
</tr>
<tr>
<td>Foreign Graduate</td>
<td>$921.50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>School of Law</th>
<th>Fall or Spring Term 1977-78</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident Graduate</td>
<td>$389.75</td>
</tr>
<tr>
<td>Nonresident Graduate</td>
<td>$1342.25</td>
</tr>
<tr>
<td>Foreign Graduate</td>
<td>$1387.25</td>
</tr>
</tbody>
</table>

\textbf{Explanation of Fees and Expenses}

\textbf{Required Fees}

- \textit{University Registration Fee} — $124 per quarter ($36 of which is tax deductible); $166 per term ($54 of which is tax deductible) for students in the School of Law. Paid by all students. Covers normal expected usage of such facilities as laboratories, gymnasium, counseling and placement services, health service, etc.

- \textit{Educational Fee} — Paid by all undergraduates at $100 per quarter, by students in the School of Law at $180 per term, and by all other graduate students at $120 per quarter. Used to support a portion of the cost for the educational program. The Educational Fee may be reduced to $50 for undergraduate students who have received prior approval from the Dean of their College or School to enroll in a program of less than 9 units.

- \textit{Berkeley Campus Fee} — Paid by all students in the amount of $12.50 per quarter and by students in the School of Law in the amount of $19.75 per term. Provides support for a wide range of activities sponsored by the ASUC, including work with academic and administrative units of the campus, construction of the Student Union building, and assistance with the provision of ethnic studies on the Berkeley campus.

- \textit{Nonresident Tuition} — $635 per quarter, $952.50 per term, School of Law.

\begin{tabular}{|c|c|c|}
\hline
\textbf{Expenses} & \textbf{Single Student} & \textbf{Married Student} \\
\hline
\textit{Rent and Food} & $2613 & $4131 \\
\hline
\textit{Books and Supplies} & $216 & $216 \\
\hline
\textit{Miscellaneous} & $666 & $1323 \\
\hline
\hline
\textbf{Total Estimated Expenses Per School Year} & $4131 & $6496 \\
\hline
\end{tabular}

\textbf{Additional Fees and Expenses}

- \textit{Late Registration} — $25. Students who register after the late registration period (see Calendar for dates) are liable for this fee.

- \textit{Late Study List Filing} — $10. Students who file their Study Lists late (see Calendar for dates) are liable for this fee.

- \textit{Reinstatement} — $10.

- \textit{Athletic Privilege Cards} — $12.50, Student Football Season Ticket, $12.00, Basketball/All Sports Card. Both Optional. Permit free admissions or reduced rates to most University athletic events.

- \textit{Books and Supplies}. Approximately $200–$300 per academic year.

\textbf{Living Expenses. Room and board in living groups will range from $2,000 to $3,000 for the academic year, with an average of about $2,600. Apartment housing (rent, utilities, and food), if shared with others for nine months, will have the same range. If leased for twelve months the cost, of course, will be higher.}

- \textit{Entertainment and Miscellaneous Costs}. A student will need to take into account laundry, cleaning, transportation, and other personal expenses which will average from $550–$750 per academic year.

\begin{tabular}{|c|c|}
\hline
\textbf{Total Estimated Expenses Per Year} & $4096 \\
\hline
\end{tabular}

A college accepts students directly from high school or transfers from other institution and offers undergraduate instruction, normally as a four-year program, leading to the bachelor's degree; however, departments in all the colleges offer programs of study beyond the bachelor's degree, in conjunction with the Graduate Division. The colleges are designed to provide students with a thorough background in one or more fields of study, and to give them some acquaintance both with allied fields and with general fields of knowledge. Although students may take some courses in another college or school, their degree requirements are determined by the dean and faculty of the college in which they are enrolled. The College of Letters and Science emphasizes the study of the general academic areas for the college student, whereas the other colleges emphasize the study of these areas in relation to applied arts and sciences.

A school normally begins instruction at the upper division or graduate level and is designed to provide a student with training preparatory to a specific profession. The school presumes its students to have acquired before entrance some background in general academic areas. The degrees offered by the schools are accredited by statewide and national boards and associations for their programs, and normally allow the graduating student a direct entry into the field.

Each of the colleges and schools has its own administrative officials and its own regulations for earning degrees, and since all undergraduate students at the University belong either to a college or a school they are expected to satisfy requirements for the degree on three levels: University, college or school, and field of concentration. A broad survey of the colleges and schools and their degree programs is provided in the Courses and Curricula section of this catalog. For further information, see the individual school or college announcements.

\textbf{Special Studies}. The Special Studies provide innovative and interdisciplinary programs of study not within the colleges and schools. Students are encouraged to avail themselves of the courses offered in Special Studies which provide credits directly applicable to a University degree. The Special Studies are established upon a network of interrelationships on the campus among colleges, schools, and departments, and, in certain cases, in conjunction with community groups, other UC campuses, and other universities. A broad survey of the Special Studies currently offered on the Berkeley campus is provided in the Courses and Curricula section of this catalog.

\textbf{Colleges and Schools}

For purposes of administration and instruction, the University is divided into a number of academic and administrative subdivisions, ranging from departments, colleges, and schools to a variety of research centers and institutes. At Berkeley, there are fifteen major academic subdivisions: the Graduate Division, five colleges, and nine schools.
Key to Symbols

The following symbols are used in the departmental faculty rosters and course listings:

Faculty Roster
1. On leave, Fall, Winter, Spring
2. On leave, Fall
3. On leave, Winter
4. On leave, Spring
5. On leave, Fall and Winter
6. On leave, Winter and Spring
7. On leave, Fall and Spring
8. Recalled to active service

Course Listings
*1. Not to be given, 1977–78
*2. To be given if a sufficient number of students enroll
*3. To be given even-numbered years (1978–1979)
*4. To be given odd-numbered years (1977–1978)
*5. Approved for one year only
*6. Approved for two years only
*7. Approved for three years only

Courses and Curricula

Colleges and Schools are presented alphabetically as indicated in the Table of Contents. Following the Colleges and Schools is a list of Special Studies. Departments are treated as subdivisions within Colleges, Schools, and Special Studies. If you are unable to locate the department of your choice, consult the index.

Prerequisites for courses should be noted carefully, although they are sometimes waived at the discretion of the instructor.

Courses with double numbers (for example, English 1A–1B) are two-quarter sequences beginning in the quarters indicated. Courses with triple numbers (for example, Mathematics 1A–1B–1C) are three-quarter sequences normally beginning in the fall quarter. Except as noted, each course in a sequence is normally prerequisite to one following, and a student may normally receive credit for completion of the first 1/3, 2/3, or 1/2 of a sequence. Course numbers preceded by the letter H are special honors courses, subject to such general restrictions as may be imposed by the department.

The number in parentheses following the course title indicates the credit value; the abbreviation in parentheses indicates the quarter in which the course is offered: (F) fall, (W) winter, (Sp) spring.

Course numbers are assigned as follows:

1–99
Lower division courses, including courses designated by a letter. Open to freshmen and sophomores, not acceptable for upper division credit.

100–196
Upper division courses. Ordinarily open to students who have completed at least one lower division course in the given subject, or two years of college work.

197
Field study (upper division). Effective fall 1973, the student is limited to ten units of credit for courses numbered 197, with a maximum of five units in any one quarter. This is not retroactive for any student who had accumulated more than ten quarter units of credit for 197 by the end of the spring quarter 1973, but such a student may not enroll in subsequent quarters for additional credit.

198
Directed group study (upper division). Students should not expect to use more than a total of ten units of 198 credit for a bachelor's degree without the permission of their dean.

199
Supervised independent study and research courses for undergraduates (upper division), which may be graded only Passed or Not Passed. Students must be in good standing (2.00 grade-point average or better). They must obtain the prior consent of the instructor who is to supervise the study, the major adviser, and the chairperson of the department in which the study is to be conducted (or the equivalent). This approval must be based upon a written proposal submitted to the chairperson. The instructor shall indicate consent in writing—for example, by initialing the student's study list adjacent to the 199 entry. The applicants shall show that their background is adequate for the proposed study, and must have completed at least 90 units of undergraduate work. The total units in any one quarter in 199 courses may not exceed 5. On the advice of the instructor or instructors concerned, the dean of a student's college or school may recommend exceptions to the limitations listed.

200–299
Graduate courses. Adequate preparation, subject to instructor's approval, is normally 18 upper division units of work basic to the subject matter of the course.

300–399
Professional courses for teachers or prospective teachers.

400–499
Professional courses which, like teaching courses, are acceptable toward academic degrees only within the limitations prescribed by the various colleges or schools or the Graduate Division.

601
Special study for graduate students in preparing for the master's examination.

602
Special study for graduate students in preparing for the Ph.D. qualifying examination.

Note: The University offers a number of experimental courses. Information on these courses is contained in this Catalog under (1) the Collegiate Seminar Program and (2) the Personalized System of Instruction, both presented under Special Studies; (3) some of the Interdepartmental Studies courses, also under Special Studies; and (4) all courses numbered 91, 191, and 291 in various departmental course listings throughout this Catalog.