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All announcements herein are subject to revision. Changes in the list of Officers of Administration and Instruction may be made subsequent to the date of publication, June 1, 1954.

Announcement of the

Graduate Division

N O R T H E R N S E C T I O N

Fall and Spring Semesters

1954–1955

JUNE 1, 1954

B E R K E L E Y • C A L I F O R N I A

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CALENDAR, 1954-1955

APPLICATIONS FOR ADMISSION AND READMISSION

July 15 and December 15 have been set as the last dates for receipt of applications for admission to the fall and spring semesters, respectively. Such applications must be accompanied by official transcripts of record. Unless *all necessary papers* are on file by July 15 for the fall semester and December 15 for the spring semester, there is no assurance that a student will be allowed to register. In any case, he may be liable for the late registration fee. (For full instructions see page 21.)

Former students seeking *readmission* are also required to make application to the Dean of the Graduate Division by July 15 and December 15, respectively, since their approved applications must reach the Registrar by August 12 and by January 6.

Regardless of the cause for lateness, no student may register after October 29 in the fall semester, or March 25 in the spring semester, without the special permission of the Chancellor at Berkeley.

CALENDAR, FALL SEMESTER, 1954-1955

- | | |
|---------------------|---|
| Sept. 13, Monday | Fall semester begins. |
| Sept. 14, Tuesday | } Registration of students, graduate and undergraduate. |
| Sept. 15, Wednesday | |
| Sept. 16, Thursday | |
| Sept. 20, Monday | Instruction begins. |
| Oct. 1, Friday | Last day for filing applications in candidacy for all master's degrees to be conferred in January, 1955; Office of the Dean of the Graduate Division, 102 Administration Building. All signatures required upon these applications must be obtained in advance. |
| Oct. 8, Friday | Last day for filing applications in candidacy for the degrees of Doctor of Philosophy, Doctor of Public Health, Doctor of Engineering, Doctor of Education, Graduate in Architecture, to be conferred in June, 1955; Office of the Dean of the Graduate Division, 102 Administration Building. All signatures required upon these applications must be obtained in advance. |
| Nov. 5, Friday | Last day for filing in final form with the committees in charge theses for the degrees of Doctor of Philosophy, Doctor of Public Health, Doctor of Engineering, Doctor of Education, Graduate in Architecture, to be conferred in January, 1955. |
| Dec. 17, Friday | Last day for filing in final form with the committees in charge theses for master's degrees to be conferred in January, 1955. |

1955

Jan. 17, Monday	}	Final examinations.
Jan. 27, Thursday		
Jan. 27, Thursday		Fall semester ends.

CALENDAR, SPRING SEMESTER, 1955

Feb. 7, Monday		Spring semester begins.
Feb. 8, Tuesday	}	Registration of students, graduate and undergraduate.
Feb. 9, Wednesday		
Feb. 10, Thursday		
Feb. 14, Monday		Instruction begins.
Feb. 15, Tuesday		Last day for filing applications for fellowships and graduate scholarships for 1955-1956.
Feb. 25, Friday		Last day for filing applications in candidacy for all master's degrees to be conferred in June, 1955; Office of the Dean of the Graduate Division, 102 Administration Building. All signatures required upon these applications must be obtained in advance.
March 4, Friday		Last day for filing applications in candidacy for the degrees of Doctor of Philosophy, Doctor of Public Health, Doctor of Engineering, Doctor of Education, and Graduate in Architecture, to be conferred in January, 1956; Office of the Dean of the Graduate Division, 102 Administration Building. All signatures required upon these applications must be obtained in advance.
March 25, Friday		Last day for filing in final form with the committees in charge theses for the degrees of Doctor of Philosophy, Doctor of Public Health, Doctor of Engineering, Doctor of Education, and Graduate in Architecture, to be conferred in June, 1955.
May 16, Monday		Last day for filing in final form with the committees in charge theses for master's degrees to be conferred in June, 1955.
June 6, Monday	}	Final examinations.
June 16, Thursday		
June 16, Thursday		

THE REGENTS OF THE UNIVERSITY

REGENTS EX OFFICIO

His Excellency, GOODWIN J. KNIGHT, A.B.
Governor of California and President of
the Regents.
Sacramento 14

HAROLD J. POWERS
Lieutenant-Governor of California
State Capitol, Sacramento 14

JAMES W. SILLIMAN
Speaker of the Assembly
246 Hawthorne st, Salinas

ROY E. SIMPSON, M.A., Litt.D.
State Superintendent of Public Instruc-
tion
531 Library and Courts bldg,
Sacramento 14

ARTHUR J. McFADDEN, B.S., LL.B.
President of the State Board of Agricul-
ture
902 River lane, Santa Ana

WILLIAM GLADSTONE MERCHANT
President of the Mechanics' Institute
804 Mechanics' Institute bldg,
San Francisco 4

JOHN P. SYMES, A.B.
President of the Alumni Association of
the University of California
490 California st, San Francisco 4

ROBERT GORDON SPROUL, B.S., LL.D.,
Litt.D.
President of the University
250 Administration bldg, Berkeley 4
203 Administration bldg, Los Angeles 24

APPOINTED REGENTS

The term of the appointed Regents is sixteen years, and terms expire March 1 of the years indicated in parentheses. The names are arranged in the order of original accession to the Board.

EDWARD AUGUSTUS DICKSON, B.L. (1958)
425 S Windsor Blvd, Los Angeles 5

JOHN FRANCIS NEYLAN, LL.D. (1960)
1 Montgomery st, San Francisco 4

FRED MOYER JORDAN, A.B. (1954)
3710 Eureka dr, Studio City

EDWIN W. PAULEY, B.S. (1970)
717 N Highland av, Los Angeles 38

BRODIE E. AHLPORT, A.B. (1956)
5657 Wilshire Blvd, Los Angeles 36

EDWARD H. HELLER, A.B. (1958)
600 Market st, San Francisco 4

VICTOR R. HANSEN, LL.B. (1962)
Superior Court, Courthouse,
Los Angeles 12

EARL J. FENSTON, A.B. (1964)
504 Helm bldg, Fresno 1

CHESTER W. NIMITZ, B.S., LL.D. (1956)
728 Santa Barbara rd, Berkeley 7

CORNELIUS J. HAGGERTY (1966)
995 Market st, Room 810,
San Francisco 3

JESSE H. STEINHART, A.B., LL.B. (1962)
111 Sutter st, San Francisco 4

DONALD H. McLAUGHLIN, B.S., M.A.,
Ph.D., D.Eng. (1966)
100 Bush st, San Francisco 4

GUS OLSON, B.S. (1960)
Clarksburg

GERALD H. HAGAR, A.B., J.D. (1964)
Central Bank bldg, Oakland 12

HOWARD C. NAFFZIGER, B.S., M.S., M.D.
(1968)
University of California Medical Center,
San Francisco 22

EDWARD W. CARTER, A.B. (1968)
401 S Broadway, Los Angeles 13

OFFICERS OF THE REGENTS

His Excellency, Goodwin J. Knight, A.B.
Governor of California
President
Sacramento 14

Edward A. Dickson, B.L.
Chairman
• 425 S Windsor Blvd, Los Angeles 5

Robert M. Underhill, B.S.
Secretary and Treasurer
240 Administration bldg, Berkeley 4

James H. Corley, B.S.
Vice-President—Business Affairs
222 Administration bldg, Berkeley 4

George E. Stevens
Assistant Controller
401 Administration bldg, Berkeley 4

Jno. U. Calkins, Jr., B.L., J.D.
Attorney
128 Administration bldg, Berkeley 4

Ashley H. Conard, B.L., J.D.
Associate Attorney for the Regents and
Attorney in Residence Matters
128 Administration bldg, Berkeley 4

John E. Landon, A.B., LL.B.
Assistant Attorney
128 Administration bldg, Berkeley 4

George D. Mallory, A.B.
Assistant Treasurer and Assistant
Secretary
240 Administration bldg, Berkeley 4

George F. Taylor, B.S.
Assistant Secretary
204 Administration bldg, Los Angeles 24

Marjorie J. Woolman
Assistant Secretary
240 Administration bldg, Berkeley 4

THE UNIVERSITY OF CALIFORNIA

GENERAL ADMINISTRATIVE OFFICERS

- Robert Gordon Sproul, B.S., LL.D., Litt.D., *President of the University.*
Clark Kerr, Ph.D., LL.D., *Chancellor at Berkeley.*
Raymond B. Allen, M.D., Ph.D., LL.D., D.Sc., *Chancellor at Los Angeles.*
Harry R. Wellman, Ph.D., *Vice-President—Agricultural Sciences.*
James H. Corley, B.S., *Vice-President—Business Affairs.*
Baldwin M. Woods, Ph.D., *Vice-President—University Extension.*
Monroe E. Deutsch, Ph.D., LL.D., *Vice-President and Provost of the University, Emeritus.*
Claude B. Hutchison, M.S., LL.D., D.Agr. (hon.c.), *Vice-President of the University and Dean of the College of Agriculture, Emeritus.*
Robert M. Underhill, B.S., *Secretary and Treasurer of the Regents.*
Herman A. Spindt, Ph.D., *Director of Admissions.*
Hiram W. Edwards, Ph.D., *Director of Relations with Schools.*
William J. Norton, Ph.C., *Business Manager.*

THE GRADUATE DIVISION, NORTHERN SECTION

ADMINISTRATIVE OFFICERS

- William Ray Dennes, D.Phil., LL.D., *Dean of the Graduate Division.*
Fred N. Briggs, Ph.D., *Associate Dean of the Graduate Division (at Davis).*
James M. Cline, Ph.D., *Associate Dean of the Graduate Division.*
Francis A. Jenkins, Ph.D., *Associate Dean of the Graduate Division.*
Morris A. Stewart, Ph.D., *Associate Dean of the Graduate Division.*
Thomas B. Steel, A.B., *Registrar.*

UNIVERSITY OF CALIFORNIA

ANNOUNCEMENT OF THE GRADUATE DIVISION, NORTHERN SECTION

THE NORTHERN SECTION OF THE GRADUATE DIVISION embraces all graduate activities of the University of California in the following centers of instruction: Berkeley, Davis, Mount Hamilton, and San Francisco. This Announcement is designed to present a comprehensive description of the facilities for graduate study and research in these centers, and to state the conditions under which higher academic and professional degrees and certificates are conferred.

For information of a more detailed nature, the student will wish to consult more specialized bulletins and publications, e.g.,—the GENERAL CATALOGUE, DEPARTMENTS AT BERKELEY, which lists all course offerings and which may be obtained by addressing a request to the Registrar, accompanied by 25 cents (26 cents in California); and the graduate announcements of the several schools and departments, obtainable on request from the Dean of the Graduate Division. Special announcements for the information and guidance of graduate students are also published from time to time in the UNIVERSITY CALENDAR and on the official bulletin boards. Students should form the habit of consulting these sources of information periodically.

For all other information affecting the status of graduate students not contained in the official university bulletins, application should be made to the Dean of the Graduate Division.

THE GRADUATE DIVISION, SOUTHERN SECTION

The University of California also offers opportunities for graduate study in academic and professional fields at the University of California, Los Angeles, at the Citrus Experiment Station, Riverside, and at the Scripps Institution of Oceanography, La Jolla. Information about curricula at these centers of instruction may be obtained from the Dean of the Graduate Division, Southern Section, University of California, Los Angeles 24, California.

THE BERKELEY CAMPUS

The Berkeley campus of the University of California is situated on the eastern shore of San Francisco Bay, directly opposite the Golden Gate. It comprises 530 acres of land lying on a sloping plane rising from gentle to bolder slopes 200 to 1,300 feet above sea level. It thus offers a superb view of the bay and the city of San Francisco, of outlying plains and mountains, the Gate, and, beyond, the Pacific Ocean.

A distinguished American author*—remarking in 1866 on the new site selected for the College of California—called it the “‘Eden of the Coast,’ where trees not yet twisted out of their natural curves of beauty by continued gales, spread their crowns beneath an unclouded sky.” Experience, of course, has tended to modify this loyal enthusiasm somewhat. A marked rainy season begins in November and continues through April. But normally all through the winter months the customary periods of three- and four-day showers are succeeded by a week or more of clear weather. Considering that they were founding a university, the founders did well to consider the weather, and for continuous academic activity it may be doubted whether there is any climate more suitable than the climate of this campus. It is exceptionally uniform

* “Berkeley,” an article by Bret Harte, published in SAN FRANCISCO'S CHRISTIAN REGISTER, September 15, 1866. Furnished through the courtesy of Professor James D. Hart.

throughout the year; extremes of heat and cold are unknown. The average temperatures are about 61.5 degrees in summer and 49.5 degrees in winter. The mean annual rainfall is about 24 inches.

Berkeley is an agreeable residential city of approximately 115,000 inhabitants. Twenty minutes by automobile, or thirty by public conveyance, will take one to the center of either Oakland or San Francisco.

THE DEVELOPMENT OF GRADUATE STUDY AT BERKELEY

The degree Doctor of Philosophy was first awarded by the University in 1881—as an honorary degree. It has never been so awarded since. Indeed, in the same year, there being a small number of “resident graduates” in the University, the faculty determined to award higher degrees only on the completion of prescribed courses of advanced study. Accordingly, the first Ph.D. degree granted on the completion of graduate studies in residence was awarded in 1885. Six graduate students pursued advanced studies under the direction of the faculty during that year, and in the next, the University had one student in candidacy for the M.A. degree and seven undertaking special subjects.

THE UNIVERSITY REGISTER for 1886–1887 announced in detail the conditions of residence and scholarship for the doctor's and master's degrees. Candidates were required to be graduates of one of the academic curricula of this University or of some other university or college of good standing. For the Ph.D. degree, the candidate was required to pursue an approved course of study for at least three years (two in residence at the University), pass a final examination, and produce an acceptable thesis. The candidate for the Master of Letters, Master of Arts, or Master of Science was required to follow an approved course of study for at least one year, pass an examination, and present an acceptable thesis. Since that time the requirements have been constantly revised and new degrees have been established to meet changing conditions. The following statistical report sufficiently attests the magnitude of that change:

From 1875 to June, 1953, the University has awarded 2,745 degrees of Master of Science, 244 of Master of Letters,* 8,773 of Master of Arts, 49 of Master of Bioradiology, 398 of Master of Business Administration, 23 of Master of City Planning, 7 of Master of Criminology, 1 of Master of Dental Surgery, 53 of Master of Education, 92 of Master of Engineering, 36 of Master of Forestry, 4 of Master of Journalism, 5 of Master of Laws, 330 of Bachelor of Library Science, 6 of Master of Library Science, 74 of Master of Optometry, 329 of Master of Public Health, 483 of Master of Social Welfare, 2 of Graduate in Education,† 185 of Doctor of Education, 9 of Graduate in Public Health,‡ 26 of Graduate in Architecture, 16 of Civil Engineer, 20 of Mechanical Engineer, 6 of Metallurgical Engineer, 10 of Mining Engineer, 3 of Petroleum Engineer, 94 of Doctor of Veterinary Medicine, 1,347 of Bachelor of Laws, 579 of Juris Doctor,§ 7 of Juris Scientiæ Doctor, 2,875 of Doctor of Medicine, 9 of Doctor of Public Health, and 3,766 of Doctor of Philosophy.

* Degree discontinued May, 1915.

† Degree discontinued May, 1921.

‡ Degree discontinued May, 1924.

§ Degree discontinued May, 1930.

THE GRADUATE DIVISION, NORTHERN SECTION

ADMINISTRATION OF THE UNIVERSITY

THE UNIVERSITY OF CALIFORNIA is located on eight campuses—at Berkeley, Los Angeles, San Francisco, Davis, Mount Hamilton, La Jolla, Riverside, and Santa Barbara. In addition to these centers of resident instruction, the University maintains a state-wide extension service, and also offers summer study on its several campuses.

The government of the University of California is entrusted to a corporation, styled The Regents of the University of California, consisting of twenty-four members. Of these, sixteen are appointed by the Governor; the others are members *ex officio*—to wit, the Governor, the Lieutenant-Governor, the Speaker of the Assembly, the State Superintendent of Public Instruction, the President of the State Board of Agriculture, the President of the Mechanics' Institute of San Francisco, the President of the California Alumni Association, and the President of the University. To this corporation, by the provisions of Article IX, Section 9, of the Constitution, the State has committed the administration of the University "with full powers of organization and government, subject only to such legislative control as may be necessary to insure compliance with the terms of the endowments of the University and the security of its funds."

The corporation is vested with the legal title to the property of the University and the property held for its benefit, and with the power to manage and dispose of it; and it has the power also to take and hold, either by purchase or donation or gift, testamentary or otherwise, or in any other manner, without restriction, all real and personal property for the benefit of the University or incidental to its conduct. It is further authorized to delegate to its committees or to the faculty or to others, such authority or functions in the administration of the University as it may deem wise. Pursuant to this authority it has created an academic administrative body called the Academic Senate.

The Academic Senate consists of the President, Chancellors, Vice-Presidents, Provosts, Deans, Directors, Registrars, University Librarians on the Berkeley and Los Angeles campuses, and all professors and instructors giving instruction in any curriculum under the control of the Academic Senate, except that instructors of less than two years' service are not entitled to vote.

The Academic Senate is divided into two sections: the *Northern Section*, which includes members of the Senate whose duties lie primarily in Berkeley, San Francisco, Davis, or at Mount Hamilton; and the *Southern Section*, which includes members of the Senate whose duties lie primarily in Los Angeles, Riverside, or La Jolla. The President of the University is Chairman, *ex officio*, of each section of the Academic Senate.

The Senate (subject to the approval of the Regents, and with certain exceptions for the Schools of Law) determines the conditions for admission, for certificates, and for degrees. Except for the Schools of Law, the Senate authorizes and supervises all courses of instruction in the academic and professional colleges and schools, and also recommends to the Regents all candidates for degrees.

**THE COUNCIL OF THE GRADUATE DIVISION,
NORTHERN SECTION**

Powers and Duties

The Council of the Graduate Division, known as the Graduate Council, is a standing committee of the Northern Section of the Academic Senate which exercises administrative and coordinating functions in the Graduate Division. The Graduate Division, Northern Section, embraces all graduate activities of the academic and professional departments except those of the Los Angeles, Riverside, and La Jolla campuses.

The Graduate Council consists of the President of the University, chairman; the Dean of the Graduate Division, vice-chairman; the Chancellor at Berkeley, and the Registrar, secretary, *ex officio*, and eighteen other members appointed by the Committee on Committees of the Northern Section of the Academic Senate. These members are so chosen as to give adequate representation to the larger divisions of graduate study associated with the degrees of M.A., M.S., Ph.D., and the professional higher degrees.

The duties of the Graduate Council are these:

To coordinate the procedure of the various departments and schools of the University—in so far as it relates to the conferring of degrees higher than the baccalaureate—in Berkeley, Davis, and San Francisco, and at Mount Hamilton.

To grant certificates of admission to qualified applicants for graduate status.

To admit qualified students to candidacy for degrees to be conferred on graduate students.

To recommend the award of fellowships and graduate scholarships, including honorary traveling fellowships, according to the terms of the various foundations.

To appoint committees in charge of candidates' studies, who shall certify for every candidate before he shall be recommended for a higher degree that he has fulfilled the requirements of the University pertaining to that degree.

To make final recommendations to the Northern Section of the Academic Senate concerning the conferring of degrees on graduate students.

To make rules governing the form of presentation, and the disposition of theses.

To regulate by general rule the issuance to graduates of the various certificates of completion and diplomas.

To supervise the conduct of examinations for higher degrees.

To administer in other ways the work of the Graduate Division, Northern Section, with a view to the promotion of research and learning.

To report to the Academic Senate on all matters pertaining to the Graduate Division, Northern Section.

To limit in its discretion the study lists of students who are engaged in occupational activities.

Membership, 1954-1955*Ex Officio Members*

- Robert Gordon Sproul, *President of the University, Chairman.*
 William Ray Dennes, *Dean of the Graduate Division, Vice-Chairman.*
 Clark Kerr, *Chancellor at Berkeley.*
 Thomas Brevard Steel, *Registrar, Secretary.*

Appointed Members

- H. A. Barker, *Professor of Plant Biochemistry.*
 H. G. Blumer, *Professor of Sociology and Social Institutions.*
 N. S. Buchanan, *Professor of Economics.*
 M. F. Bukofzer, *Professor of Music.*
 R. S. Crutchfield, *Professor of Psychology.*
 V. A. DeMars, *Professor of Architecture.*
 J. J. Eiler, *Professor of Pharmacy, Professor of Biochemistry and Pharmacy, and Assistant Dean of the College of Pharmacy.*
 H. Goss, *Professor of Animal Husbandry.*
 J. F. King, *Professor of History.*
 E. G. Linsley, *Professor of Entomology.*
 Y. Malkiel, *Professor of Romance Philology.*
 J. L. Meriam, *Associate Professor of Engineering Mechanics and Assistant Dean of the College of Engineering.*
 W. K. Pritchett, *Associate Professor of Greek.*
 W. C. Reeves, *Associate Professor of Epidemiology.*
 D. H. Russell, *Professor of Education.*
 M. Schorer, *Professor of English.*
 E. G. Segrè, *Professor of Physics.*
 C. R. Wilke, *Professor of Chemical Engineering.*

Standing Committees, 1954-1955

- Administrative Committee:* Dean of the Graduate Division, N. S. Buchanan, J. F. King, J. L. Meriam, W. K. Pritchett, E. G. Segrè.
Admission of Foreign Students: M. A. Stewart, A. G. Brodeur, P. B. Fay, L. Kinnaird, C. H. Li, T. Y. Lin, O. Maslenikov, A. Torres-Rioseco.
Fellowships and Graduate Scholarships: E. G. Segrè, H. G. Blumer, N. S. Buchanan, M. F. Bukofzer, W. R. Dennes, J. J. Eiler, H. Goss, J. L. Meriam, W. K. Pritchett, W. C. Reeves, M. Schorer.
Forms of Theses and Dissertations: F. A. Jenkins, D. Coney, Y. Malkiel.
Thompson Scholarships: M. Schorer, W. R. Dennes, J. J. Eiler, D. H. Russell, E. G. Segrè.
Higher Degrees and Research in the Romance Languages and Literatures: Dean of the Graduate Division, C. D. Brenner, E. Buceta, F. J. Carmody, G. A. Chapman, M. DeFilippis, Miss J. E. de La Harpe, A. Eustis, P. B. Fay, C. E. Kany, Y. Malkiel, E. F. Meylan, J. Montesinos, E. S. Morby, W. Ramsey, A. H. Rowbotham, Mrs. D. C. Shadi, L. B. Simpson, R. K. Spaulding, A. Torres-Rioseco, R. N. Walpole, B. M. Woodbridge, Jr.
Hitchcock Professorship: R. E. Clausen, M. M. Davisson, W. C. Fleming, E. D. Howe, D. Kreech, K. S. Pitzer, W. M. Stanley, Dean of the Graduate Division.
Foerster Lectures: S. C. Pepper, B. H. Bronson, T. D. McCown.
Howison Lectures in Philosophy: K. Aschenbrenner, B. Mates, C. J. Sullivan.
Barbara Weinstock Lectures: E. T. Grether, N. S. Buchanan, J. B. Condliffe.
Public Research Lectures by Faculty Members: B. H. Bronson, A. G. Brodeur, M. Calvin, H. S. Ellis, D. W. MacKinnon, Dean of the Graduate Division.

GRADUATE ADVISERS

At the request of the Dean of the Graduate Division, each professional school or each academic department (or group of departments) offering majors for higher degrees nominates a graduate adviser. A list of these advisers is issued before the opening of every semester. If no adviser has been appointed to represent a certain area, the dean of the school or the chairman of the department or group concerned is presumed to exercise his duties and functions. Although the responsibility of the graduate adviser has not been officially fixed by the Academic Senate, he is presumed to be the deputy of the Dean in his department, and the authority to whom graduate students may direct requests for information about graduate study in their special fields. The graduate adviser is also recognized by the Graduate Council as the sole representative of his school, department, or group in all matters pertaining to the organization of graduate instruction and to the administration of candidacies for higher degrees. Among many important duties, the graduate adviser is expected to perform the following:

- (1) To advise prospective candidates for degrees regarding their programs of study.
- (2) To report to the Dean of the Graduate Division on the upper division and graduate work completed by new students from other institutions, on the basis of evaluation of credentials by the Director of Admissions.
- (3) To sign in behalf of the school, or department, or group, all applications for candidacy for the master's degree and professional higher degrees, and for qualifying examinations for the Ph.D. degree.
- (4) To keep a record of all candidates taking majors in the school, department, or group for its information and consideration.
- (5) To act on the petitions of graduate students.
- (6) To supply whatever information may be requested by the Dean regarding graduate students and graduate work within the department, group, or school.
- (7) To assist the Dean in the observance of University regulations within the department or group, particularly those relating to the admission of students to graduate courses.

In all these matters, only the signature of the accepted graduate adviser is recognized as expressing the decision of the school, department, or group concerned.

ADVISERS FOR VETERANS

To maintain liaison between veterans and the various agencies offering educational benefits to them, and to assist veterans in becoming assimilated into the life and spirit of the University, a Supervisor of Special Services has been appointed as an adjunct to the Office of the Dean of Students. This office is located at 2227 Union Street. Offices of the United States Veterans Administration are located as follows:

Oakland Sub-Regional Office, 1305 Franklin Street, Oakland, California.

San Francisco Regional Office, 49 Fourth Street, San Francisco, California.

Enrollment under Public Law 346 and Public Law 16

In order to enroll under the provisions of Public Law 346 (G.I. Bill), and to obtain their full benefits, veterans must present an original or supplemental *Certificate of Eligibility*, must register within the period of registration announced by the University, and must file a study list. In order to enroll under the provisions of Public Law 16 (Rehabilitation), authorization to complete such enrollment must be obtained from the United States Veterans Administration Office and be received by the Office of the Supervisor of Special Serv-

ices prior to registration. Veterans should apply to their local United States Veterans Administration Office in sufficient time to receive their *Certificates of Eligibility* or proper authorization prior to registration; otherwise they must be prepared to pay all expenses (tuition, books, fees, and supplies). Refunds of such expenditures may be made later to the veteran student based upon the effective date of the *Certificate of Eligibility*.

Transfer

Veterans who transfer from any other campus of the University of California without a change of objective or degree, and whose training under Public Law 346 has not been interrupted in excess of four months, need only present a *Coördinator's Transfer Notice* from the campus last attended. But a veteran *must present* a supplemental certificate if (1) he has been out of training more than four months, (2) if he has not completed the last term or session in which he enrolled under veterans benefits, (3) if he has attended any other institution or (4) has attended University Extension, or (5) he last attended a campus within the regional jurisdiction of a different Veterans Administration region. If the transfer is into a different Veterans Administration region, the veteran should request a transfer of his files to the proper regional office.

Enrollment under Public Law 550

Veterans wishing to enroll under the provisions of Public Law 550 (Korean G.I. Bill) should obtain from the United States Veterans Administration a *Certificate for Education and Training*. When the veteran has completed his registration, this Certificate should be filed with the Dean of Students-Special Services. Veterans under the Korean Bill must be prepared to pay all fees and educational costs at the time of registration, since under this bill allowances for education and training are paid not to the University but to the veteran himself. The first monthly payment will normally be received 60 to 75 days after compliance with the regulation above.

CVEI

Information regarding educational benefits available from the State of California (CVEI) may be obtained from the State Department of Veterans Affairs located at 700 Capitol Avenue, Sacramento, California, or by writing to 515 Van Ness Avenue, San Francisco, California.

Draft Deferment

Students having problems in connection with their draft status should consult the Supervisor of Special Services, 2227 Union Street, Berkeley.

ADVISERS FOR FOREIGN STUDENTS

It is suggested that students from other countries call at the Office of the Dean of the Graduate Division as soon as possible after their arrival at the University. Foreign students who need advice on special personal problems, on matters concerning their visas, relationships with immigration authorities, or other related problems should confer with Mr. Allen C. Blaisdell, Foreign Student Adviser, in his office at International House, Berkeley 4.

Foreign women students are invited to call at the Office of the Dean of Women, 201 Administration Building. The Dean will be glad to aid them in making adjustments to the University.

ORGANIZATION OF GRADUATE STUDY AND RESEARCH

NORTHERN SECTION

GRADUATE INSTRUCTION is offered by the following professional schools, academic departments, and groups of departments in the University:

AT BERKELEY

Schools

Business Administration Criminology Education Forestry Law Librarianship	Medicine (first year) Nursing (in part) Optometry Public Health (in part) Social Welfare
---	--

Departments and Groups of Departments*

Agricultural Chemistry Agricultural Economics Agricultural Engineering Agronomy Anatomy Animal Husbandry Anthropology Applied Mathematics Architecture Art Astronomy Bacteriology Biochemistry Botany Chemistry City and Regional Planning Classics Classical Archaeology Greek Latin Sanskrit Decorative Art Economics Education Engineering Agricultural Engineering Ceramic Engineering Civil Engineering Electrical Engineering Engineering Science Hydraulic Engineering Industrial Engineering Mechanical Engineering Mineral Technology Metallurgy	Mining Petroleum Engineering Process Engineering Sanitary Engineering Transportation and Traffic Engineering English Entomology Forestry French Geography Geological Sciences Geology Geophysics Mineralogy German History Home Economics Horticulture Irrigation Italian Journalism Landscape Architecture Librarianship Mathematics Music Near Eastern Languages Oriental Languages Paleontology Parasitology Philosophy Physical Education Physics Physiology
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* For information on clinical departments in the School of Medicine, consult the Dean of the Graduate Division.

Plant Pathology	Slavic Languages and Literatures
Political Science	Sociology and Social Institutions
International Relations	Soil Science
Poultry Science	Spanish
Psychology	Vegetable Crops
Romance Philology	Zoölogy

Fields of Study Offered by Departments and Groups of Departments

Agricultural Chemistry	History of Art
Biophysics	Latin-American Studies
Bioradiology	Linguistics
Chemical Engineering	Medical Physics
Child Development	Microbiology
City Planning	Nutrition
Comparative Biochemistry	Physiological Optics
Comparative Literature	Plant Pathology
Comparative Pathology	Plant Physiology
Comparative Pharmacology and Toxicology	Range Management
Comparative Physiology	Romance Languages and Literature
East Asiatic Studies	Slavic Studies
Endocrinology	Soil Science
Genetics	Statistics

Supplemental Facilities

In certain fields of study, facilities for research are supplemented by those offered in the Institute of Child Welfare, the Institute of East Asiatic Studies, the Institute of Experimental Biology, the Institute of Geophysics, the Institute of Industrial Relations, the Institute of Personality Assessment and Research, the Institute of Slavic Studies, the Institute of Social Sciences, the Institute of Transportation and Traffic Engineering, the Bureau of Business and Economic Research, the Bureau of Public Administration, and the Bureau of International Relations, of which descriptions are given in the departmental group announcements.

Work is offered at Berkeley leading to certificates in education (teacher-training curricula), hospital dietetics, optometry, nursing education, and public health nursing.

AT DAVIS

Graduate study and research are offered in the following fields of study:

Agricultural Chemistry	Genetics
Agricultural Engineering	Horticulture
Agronomy	Irrigation
Animal Husbandry	Mathematics
Botany	Microbiology
Chemistry	Nutrition
Comparative Biochemistry	Plant Pathology
Comparative Pathology	Plant Physiology
Comparative Pharmacology and Toxicology	Poultry Science
Comparative Physiology	Range Management
Education	Soil Science
Entomology	Vegetable Crops
Food Science	Zoölogy

The School of Veterinary Medicine at Davis offers a curriculum leading to the degree of Doctor of Veterinary Medicine.

AT MOUNT HAMILTON

The Lick Astronomical Department (Lick Observatory).

AT SAN FRANCISCO

The School of Medicine (second, third, and fourth years), including Hospitals.

The School of Nursing.

The School of Public Health (in part).

The George Williams Hooper Foundation for Medical Research.

The College of Pharmacy.

The College of Dentistry. In addition to the programs for degrees, postgraduate work is offered leading to certificates in dentistry (dental medicine, denture prosthesis, orthodontics, and periodontology).

Work is also offered at San Francisco leading to higher degrees in pathology, comparative pathology, pharmaceutical chemistry, pharmacology, and comparative pharmacology and toxicology.

SOUTHERN SECTION**AT LOS ANGELES**

School of Business Administration.

School of Education.

School of Law.

School of Medicine.

School of Nursing.

School of Public Health (in part).

School of Social Welfare.

Departments and Groups of Departments Offering Graduate Work

- | | |
|--------------------------|--------------------------------|
| Anatomy | *Italian |
| Anthropology | *Journalism |
| Anthropology-Sociology | *Latin |
| *Applied Physics | Mathematics |
| *Art | Meteorology |
| *Astronomy | Microbiology |
| Biological Chemistry | Music |
| Biophysics | *Nursing |
| Botanical Science | Oceanography |
| Chemistry | Philosophy |
| Economics | Physical-Biological Science |
| Education | *Physical Education (including |
| Engineering | recreation) |
| English | Physics |
| *French | Physiological Chemistry |
| Geography | Physiology |
| Geology | Political Science |
| *German | Psychology |
| Germanic Languages | *Public Administration |
| *Greek | *Radiology |
| *Health Education | Romance Languages and |
| Hispanic Languages and | Literature |
| Literature | Sociology |
| History | *Spanish |
| *Home Economics | *Speech |
| Horticultural Science | *Theater Arts |
| Infectious Diseases | Zoology |
| *International Relations | |

* Work leading only to the Master's degree.

Work is offered in business administration leading to the degrees of Master of Business Administration and Doctor of Philosophy, in education leading to the degrees of Master of Education and Doctor of Education, and in social welfare leading to the degree of Master of Social Welfare.

Work is also given at Los Angeles leading to certificates in education (teacher-training curricula) and to a Certificate in Social Welfare.

AT RIVERSIDE

The Citrus Experiment Station offers graduate study and research in:

Entomology

Plant Pathology

Plant Physiology

Subtropical Horticulture

AT LA JOLLA

The Scripps Institution of Oceanography.

FACILITIES FOR RESEARCH

THE UNIVERSITY LIBRARY AT BERKELEY

THE LIBRARY on the Berkeley campus of the University of California consists of the General Library with its twenty-one branch libraries; about fifty departmental and special libraries, and some sixty staff and office collections. These groups, known collectively as the University Library, contain more than 1,900,000 volumes and constitute one of the most distinguished teaching and research libraries in the United States. Approximately 21,000 periodicals and serials are received currently, exclusive of government documents.

The Bancroft Library of Californian, western American, and colonial Latin-American history contains over 96,000 volumes; the Biology Library over 112,000 volumes; and the East Asiatic Library about 225,000 volumes of Chinese, Japanese, and Korean material. Other special collections include those of the Giannini Foundation of Agricultural Economics Research, the Law Library, the Bureau of Public Administration, and the Bureau of International Relations.

UNIVERSITY OF CALIFORNIA PUBLICATIONS

The scholarly activities of the faculty are exemplified by the publications of its members. In order to make generally available the contributions to knowledge which develop from research, the University issues several series of publications under the official title of *University of California Publications*. Papers for these series are accepted solely on the basis of merit as new and original work. Results of research done by advanced students, including theses for higher degrees, may be considered for publication on this basis.

The conditions governing the acceptance of contributions are contained in the Rules of the Editorial Committee. These, and a list of the publications of the University, may be obtained from the Manager of the Publishing Department of the University of California Press.

ACCOMMODATION OF VISITING SCHOLARS

The University of California has always been hospitable to scholars from other institutions of learning who have wished, during periods of leave, to carry on advanced studies here. The University welcomes such scholars, whether they choose to register as graduate students or to study without formal registration. It is assumed that in general they will not wish to become candidates for higher degrees. But in any case it is desirable that they communicate in advance with the Dean of the Graduate Division to inquire whether the facilities they require can be provided. Visiting scholars unless formally registered are not eligible for the privileges of the Student Health Service.

ADMISSION

ADVANCED INSTRUCTION is offered by the University of California leading to certificates and to the several degrees of Master of Science, Master of Arts, Master of Bioradiology, Master of Business Administration, Master of City Planning, Master of Criminology, Master of Dental Surgery, Master of Education, Master of Engineering, Master of Forestry, Master of Journalism, Bachelor of Library Science, Master of Library Science, Master of Optometry, Master of Pharmacy, Master of Public Health, Master of Social Welfare, Doctor of Education, Doctor of Engineering, Graduate in Architecture, Bachelor of Laws, Master of Laws, Juris Scientiae Doctor, Doctor of Medicine, Doctor of Public Health, Doctor of Veterinary Medicine, and Doctor of Philosophy.

Application for Admission

A formal application is required of all persons seeking admission to the Graduate Division, Northern Section, of the University of California. The application blank may be obtained by addressing the Dean of the Graduate Division, 102 Administration Building, University of California, Berkeley 4. It must be filed at the Office of the Dean of the Graduate Division, preferably twelve weeks prior to the date of registration, and in no case later than July 15 for the fall semester and December 15 for the spring semester, and should be accompanied by a money order or bank draft for \$5* in payment of the application fee. *Please note that the application fee is chargeable to every person who files an application, and is not returnable under any circumstances.*† In cases where applications and complete records are filed later than twelve weeks before the date of registration, it is possible that the student's registration may be delayed, thus making him liable for the late registration fee of \$2. (See page 5, Applications for Admission and Readmission.)

Students whose registration has been delayed because of late application for admission must request from the Office of the Graduate Division a *Permit to Attend Classes*.

Official transcripts of record covering all college and university work completed to date, together with official evidence of degrees conferred, may accompany or must immediately follow the application. A separate original and official record must be presented from each institution previously attended. In the absence of official records and official evidence of graduation or degree, registration cannot be permitted. *Transcripts of students' records and all other official credentials are retained permanently in the files of the Office of the Dean of the Graduate Division. In addition to having the records sent to this office, the student must have in his possession an official record for his use in conference with departments and for other purposes here. The Graduate Division office copy may not be borrowed.*

Standards of Admission

Holders of the bachelor's degree from institutions of acceptable standing are accorded admission to the Graduate Division, subject to the following qualifications: (1) that the standards of the degree in question are equivalent to those maintained at the University of California; (2) that the record of scholarship is satisfactory; and (3) that the student can be accommodated

* Veterans with service prior to July 25, 1947, who expect to enroll under the provisions of Public Law 346 (the G.I. Bill of Rights), or Public Law 16, are not required to remit this fee. Persons enrolling under Public Law 550 must, however, pay this fee at the time of application.

† For rules governing the readmission of former graduate students, see pages 5 and 23.

in the field in which he wishes to study. The Dean of the Graduate Division may deny admission, however, if the record of scholarship is not sufficiently distinguished, or if the undergraduate program has not been of such a character as to furnish an adequate foundation for advanced academic or professional study. These provisions affect all applicants whether from colleges or schools in the University of California or outside it.

Admission with Special Requirements

In special instances applicants whose undergraduate programs have not adequately met the equivalent of requirements for graduation from the University of California may be admitted to the Graduate Division. However, after evaluation of credentials, they will be required to obtain from the graduate advisers in departments concerned certified statements of the amount of work accepted as advanced (upper division) work. On the basis of assignment of advanced credit, and of specific and general requirements for the acceptable bachelor's degree, the question of requirements to be satisfied preliminary to or in addition to the program proper for a higher degree will be determined.

Admission without Reference to a Degree

Students who do not desire to become candidates for higher degrees must meet the same admission requirements as those who are prospective candidates for degrees, but they are free to pursue their studies without supervision of a department or sub-committee. They must be admitted to a specified field of study, and they must satisfy the Dean that their program of study has a definite scholarly or professional purpose. Such students are not eligible to apply for exemption from the nonresident tuition fee.

Medicine

Applicants for admission to the graduate years of the School of Medicine should file their credentials with the Dean of the School of Medicine, University of California Medical Center, San Francisco 22, accompanied by a money order or bank draft for \$5 in payment of the *application fee*.‡

Graduate Students on Other Campuses

Applicants for admission to graduate work at Davis, the Lick Observatory on Mount Hamilton, the Hooper Foundation in San Francisco, the academic departments of the School of Medicine in San Francisco, the College of Dentistry in San Francisco, and the College of Pharmacy in San Francisco must first secure admission to the Graduate Division and authorization to pursue such work through the Dean of the Graduate Division, Northern Section.

Vaccination

Every new student, and every student returning to the University after an absence, must present at the time of the medical examination by the University Medical Examiner, a certificate establishing the fact that he has been successfully vaccinated against smallpox within seven years. A form for this purpose will be furnished by the University. Vaccination should be completed prior to registration.

Study Lists

After admission to the Graduate Division every graduate student is required to file with the Registrar on a specified date a study list containing his program of courses approved by the graduate adviser in the department of his major subject. Study-list changes for graduate students are subject to the regulations applying to undergraduates.

‡ For exception for veterans, see preceding page.

READMISSION

An application for readmission is required of persons formerly registered in a regular session as graduate students who wish to return after an absence. The form for this purpose is obtainable from the Registrar. Since the approved applications must reach the Registrar by August 12 and by January 6, they should be filed with the Dean of the Graduate Division by July 15 and December 15, respectively. (See page 5, Applications for Admission and Re-admission.) No fee is charged for readmission. For vaccination certificate, see pages 5, 22, 59.

Students whose registration has been delayed because of late application for readmission must request from the Office of the Graduate Division a *Permit to Attend Classes*.

STANDARD OF SCHOLARSHIP, DISQUALIFICATION, DISCIPLINE

Every graduate student is expected to prove himself worthy of the privileges of advanced study and research offered at the University. For the scholarship average required for the master's degree and the doctor's degree, see pages 29, 32 and 33 of this announcement; for other higher degrees, see the departmental announcements and the announcements of the professional schools. Disqualification of graduate students is at the discretion of the Dean of the Graduate Division. Other matters of discipline are administered by the President with the advice of the Committee on Student Conduct.

ADMISSION OF FOREIGN STUDENTS

Foreign students are held to the same regulations affecting admission and candidacy as are students from the United States. Every foreign student whose training has been in a language other than English must appear for the University Examination in English for Foreign Students. The purpose of this examination is to determine whether a student has sufficient command of English to enable him to pursue his graduate studies effectually.

Foreign students who intend to return to their native countries are advised to consider whether they wish to avail themselves of the opportunities for graduate study and research at this University without reference to a degree. A foreign student seeking a higher degree may be called upon to meet specific American requirements not essential to his aims, and consequently may not, if his sojourn is limited, derive from his study the most beneficial results for his purposes.

REQUIREMENTS FOR HIGHER DEGREES

Registration Required of Candidates for Higher Degrees

EVERY CANDIDATE for a higher degree is required to register at the University at the beginning of each semester so long as *any part* of the *degree* requirement (including the thesis and final examination) is in process of fulfillment; and until either the degree shall have been awarded, or the candidate shall have received a formal certificate of leave of absence or of honorable dismissal from the University. This means formal registration with the Registrar or, for a certain class of candidates for higher degrees, the Special Form of Registration (see below).

In accordance with the foregoing provisions, courses of instruction, including opportunity for graduate study and research provided by the University of California, are classified according to their administrative status and registration procedure as follows:

(1) Courses of resident instruction given during the fall or spring semesters at Berkeley: registration with the Registrar; fees to be paid to the Cashier.

(2) Courses of resident instruction in the summer session: on same basis as resident courses during fall or spring semesters.

(3) Resident courses of instruction including graduate study and research at places other than Berkeley: registration in advance with the Registrar is required as in the case of other resident courses. Such registration may be conducted at a distance from Berkeley, for convenience of class or individual student, however; and, by arrangement with the Registrar, the instructor in charge or other delegated representative may act as local registration officer, and also as officer to collect and forward fees (where required) to the Cashier.

SPECIAL FORM OF REGISTRATION

Candidates for the Master's Degree

Candidates for the *master's degree*, in residence at the University, who have completed all degree requirements except the writing of the thesis under *Plan 1* or the comprehensive final examination under *Plan 2*, and who are taking no further work in resident courses or in research, should register without fees. The card for this purpose may be obtained at the Office of the Dean of the Graduate Division and must subsequently be filed with the Registrar. If such students desire library privileges, however, they may secure the *Special Borrowing Privilege* on payment of a fee of \$6 a year. Stack privileges will be arranged by the Librarian. These students are not eligible for hospital or other services covered by the incidental fee, nor to the use of laboratories or other research facilities offered by the University.

Candidates for the Doctoral Degree

Candidates for the Ph.D. and Ed.D. degrees will not be required to register regularly (i.e., on payment of the incidental fee) for more than two semesters after formal admission to candidacy. Candidates for these degrees in residence at the University, who have completed minimum residence requirements and all other requirements for the degree with the exception of the actual writing of the dissertation, and the final examination, and who are taking no further work in resident courses, including research courses, may, provided they have met the above requirement as to registration following advancement to candidacy, register without fees. The card for this purpose may be obtained at the Office of the Dean of the Graduate Division and must subsequently be filed with the Registrar. If such students, however, desire library privileges they

may obtain the *Special Borrowing Privilege* on payment of a fee of \$6 a year. Stack privileges will be arranged by the Librarian. These students are not eligible for hospital or other services covered by the incidental fee, nor to the use of laboratories or other research facilities offered by the University.

Residence Requirements for Higher Degrees

For every degree or certificate there is required a minimum schedule of work to be completed in actual attendance at the University.

The minimum residence requirement for the master's degree is one year, for the Ph.D. degree, two years. In case of excess residence for the master's degree, and at the discretion of the Graduate Council, a candidate for a professional higher degree or the Ph.D. degree may qualify without completing an additional year of work in residence after the receipt of a master's degree.

Attendance at the six-week summer sessions may be applied as part of the residence requirement for the master's degree provided the work has been properly chosen; concerning summer session residence for the Ph.D. degree, see page 30.

Candidates for degrees may, at the discretion of the Graduate Council, be given credit for work taken at other universities, but such allowance of credit will not reduce the minimum period of one year of residence required at the University of California. See also pages 30 and 33.

Residence at the Lick Observatory on Mount Hamilton, at Davis, or at the Hooper Foundation in San Francisco, or in the academic departments of the School of Medicine in San Francisco is regarded as residence in the University for students who have been formally authorized to pursue graduate work at any of these places. Furthermore, residence wherever a student may be directed by the Graduate Council to prosecute regular research is held to be residence in the University. Study and research under such authorization is expected to be pursued under immediate direction of the staff of the University of California.

DEFINITION OF ACADEMIC RESIDENCE

Every graduate student must register for, attend, and complete upper division courses (courses in the 100 series) or graduate courses (courses in the 200 series) amounting to at least 4 units for each semester of the regular session, or 2 units of similar work in a summer session, in order to satisfy the minimum residence requirement in candidacy for any higher degree awarded by the University.

Furthermore, every regularly registered graduate student, not a candidate for a degree, must be enrolled and in actual attendance in at least one regularly authorized course of instruction. Regular registration will not be permitted for students who wish to take only exercise courses in physical education or courses having no unit value.

REQUIRED RESIDENCE AT BERKELEY FOR STUDENTS PURSUING MAJOR WORK AT OUTLYING STATIONS OF THE UNIVERSITY

In order to insure the well-balanced training of candidates for higher degrees who pursue their major work at one of the outlying stations of the University, the following requirement has been established: candidates or prospective candidates for the master's degree† will be required to spend at least one semester or its equivalent in residence at Berkeley; candidates for the Ph.D.

† This regulation does not apply to candidates for the master's degree in residence at Davis.

degree* will be required to spend at least two semesters or their equivalent in residence at Berkeley.

In the case of graduate students who have completed elsewhere the equivalent of work which normally would be undertaken at Berkeley toward the master's or doctor's degree, the requirement of residence at Berkeley may be waived by permission of the Administrative Committee of the Graduate Council.

STUDY LISTS

Every graduate student is required to file with the Registrar on a specified date a study list containing his program of courses or statement of other graduate work, including thesis and research approved by the graduate adviser in the department of his major subject.

Graduate students in the regular session taking only upper division courses are limited to a program of 16 units. Graduate students taking only graduate courses are limited to a program of 12 units. Graduate students taking a program of upper division and graduate courses are limited to a total made up in the proper proportion of 12 to 16, e.g., 6 graduate and 8 upper division units. Teaching assistants, research assistants, and others employed approximately half time are limited to three-fourths of this schedule; and teaching assistants must have received the approval of the Dean of the Graduate Division to carry programs totaling less than 6 units of graduate and upper division courses. Research assistants must carry a minimum of 4 units. Graduate students engaged full time in other occupations are limited to 4 units of graduate courses or the equivalent thereof. The tabular representation will be of assistance to students in planning their programs. Study lists exceeding the limits specified will be accepted only after receipt of approval from the Dean of the Graduate Division.

MAXIMUM PROGRAM			MAXIMUM PROGRAM FOR TEACHING ASSISTANTS			MAXIMUM PROGRAM FOR PERSONS EMPLOYED FULL TIME		
Grad- uate units	Upper Division units	Total units	Grad- uate units	Upper Division units	Total units	Grad- uate units	Upper Division units	Total units
0	16	16	0	12	12	0	6	6
1	15	16	1	11	12	1	4	5
2	13	15	2	9	11	2	3	5
3	12	15	3	8	11	3	1	4
4	11	15	4	7	11	4	0	4
5	9	14	5	5	10			
6	8	14	6	4	10			
7	7	14	7	3	10			
8	5	13	8	1	9			
9	4	13	9	0	9			
10	3	13						
11	1	12						
12	0	12						

* With reference to students resident at Davis, the requirement of residence at Berkeley is defined in terms of the courses which a student must complete on the Berkeley

LEGAL RESIDENCE IN THE STATE OF CALIFORNIA

In accordance with State law, which makes a student whose home is not in the state of California subject to a tuition fee of \$150 a semester, every student of the University is classified as a *resident* or *nonresident* of California.

A graduate student classified as a nonresident of California who is accepted as an academic student without deficiencies, and who gives evidence of scholarship of distinction (see statement on page 42) may, under certain conditions, upon the approval of the Dean of the Graduate Division, be exempted from the payment of the nonresident tuition fee. Applications for exemption from the nonresident tuition fee should be filed with the Dean before the date set for registration, whether or not the final decision has been reached as to the applicant's residential status. In case of doubt as to legal residential status, the student may consult the Attorney for the Regents in Residence Matters, Room 128, Administration Building, on the Berkeley campus.

THE MASTER'S DEGREE

Preliminary Preparation

The preliminary training of the candidate for the degree of Master of Arts or Master of Science should be substantially the equivalent of that represented by the corresponding bachelor's degree of the University of California. A bachelor's degree in the University of California represents eight years of systematic high school and collegiate work distributed according to the requirements of the University for the particular college or course in which the student takes his degree. If the candidate's undergraduate course is found to be in any serious respect deficient in its breadth of fundamental training, or fails to provide a proper foundation for advanced work in the department or departments of the candidate's choice, it may be necessary for him to devote some time to specified undergraduate courses, and this may involve a longer period of residence than would otherwise be required.

A graduate of an institution of acceptable standing is normally admitted to candidacy for a master's degree at the University of California on an equality with a graduate of the University of California if his college course has been of such character as to furnish a basis for advanced academic work; that is, if it includes 36 units of advanced study, with 15† units of advanced work basic to his major subject. Such a student is not expected to undertake further preliminary advanced work unless specifically required to do so by the department of his major subject. Graduates of other institutions should have an evaluation of their credentials made before entering on their work for the degree, in order that their status toward candidacy may be determined.

Application for Advancement to Candidacy

The application for admission to candidacy must be made through the Dean of the Graduate Division, upon the recommendation of the department concerned, and must contain a general statement of the studies upon which the application is based. Advancement to candidacy shall take place not later than one semester prior to the date of completion of requirements for the degree. Attention of students is directed to the fact that admission to candidacy is not automatic. It requires a formal application distinct from registration. A date, approximately two weeks after the opening of the semester, is set in each semester as the final date for application for candidacy on the part of students hoping to qualify for a degree at the close of that semester.

Designation of Master's Degrees

The designation of a master's degree, whether M.A. or M.S., is decided by the Dean of the Graduate Division with the advice of the department in the major subject. Ordinarily a student holding an A.B. degree will receive an M.A. degree. If, however, he should elect to qualify in a field in which the M.S. degree is offered (e.g., engineering, agriculture, etc.), it will be necessary for him to complete the requirements of the appropriate undergraduate college or curriculum before proceeding to the program proper for that master's degree. Similarly, the holder of a B.S. degree may receive the M.A. degree only on completion of the undergraduate major requirements in the new field, preliminary to the program proper for the master's degree.

* Regulations governing requirements for the degrees of Master of Bioradiology, Master of Business Administration, Master of City Planning, Master of Criminology, Master of Dental Surgery, Master of Education, Master of Engineering, Master of Forestry, Master of Journalism, Bachelor of Laws and Master of Laws, Bachelor of Library Science and Master of Library Science, Master of Optometry, Master of Pharmacy, Master of Public Health, and Master of Social Welfare will be found in the announcements of the respective schools and departments.

† See page 22.

Standard of Scholarship

Only courses in which the student is assigned grades A, B, or C may be counted in satisfaction of the requirements for the master's degree. Furthermore, the student must maintain *an average* of at least two grade points per unit in those courses, and in all upper division and graduate courses elected during his residence at the University of California as a graduate student. Three points per unit are assigned to grade A; two points to grade B; one point to grade C; none to grades D, E, and F. (The scholarship and the system of computation apply to both plans.)

Amount and Distribution of Work

Students will pursue one of the following plans for the fulfillment of the requirements for the master's degree, depending on the advice of the department selected for the major work. Departments may adopt one or the other, or both plans. Departments adopting both plans shall designate the plan to be followed by each student.

Plan I. There are required 20 units and in addition a thesis. The courses must be graduate courses or upper division undergraduate courses. At least 8 of the 20 units must be strictly graduate work in the major subject; no unit credit is allowed for the thesis. It is expected that the work of the graduate course, or courses, together with the thesis will ordinarily amount to not less than half of the entire work presented for the degree. Provided the foregoing general and the special departmental requirements be met, the work may be distributed among any courses in the 100 or 200 series. The student is subject to guidance by the major department respecting the distribution of his work among the departments.

With the special approval of the Graduate Council, the candidate may satisfy the 20-unit requirement for the degree by a comprehensive supervised plan of research leading to an acceptable thesis, the schedule for each candidate to be as follows:

Research (designation and number of course), 10-12 units per semester.

Special departmental requirements additional to the general requirements described above may be found in the departmental graduate announcements.

Plan II. There are required 24 units of upper division and graduate courses, of which at least 12 units must be in strictly graduate courses in the major subject. The student is subject to guidance by the major department respecting the distribution of his work among the departments.

A comprehensive final examination in the major subject, to be of such nature and to be conducted in such manner as may be determined by the department concerned, is required of every candidate.

Special departmental requirements additional to the general requirements described above may be found in the departmental graduate announcements.

The following departments* and groups offer majors for the master's degree:

**DESIGNATION OF MAJOR SUBJECTS FOR THE DEGREE OF
MASTER OF SCIENCE AND MASTER OF ARTS**

Agricultural Economics
Agricultural Engineering
Agronomy
Anatomy
Animal Husbandry
Anthropology
Architecture
Art

Astronomy
Bacteriology
Biochemistry
Botany
Ceramic Engineering
Chemical Engineering
Chemistry
Child Development

* For advice concerning clinical departments in the School of Medicine, consult the Dean of the Graduate Division.

Civil Engineering	Mechanical Engineering
Classical Archaeology	Metallurgy
Classics	Microbiology
Comparative Literature	Mining
Comparative Pathology	Music
Comparative Pharmacology and Toxicology	Near Eastern Languages
Decorative Art	Nursing
Dentistry	Nutrition
East Asiatic Studies	Oriental Languages
Economics	Paleontology
Education	Parasitology
Electrical Engineering	Pathology
Endocrinology	Petroleum Engineering
Engineering Science	Pharmaceutical Chemistry
English	Pharmacology
Entomology	Philosophy
Food Science	Physical Education
Forestry	Physics
French	Physiological Optics
Genetics	Physiology
Geography	Plant Pathology
Geology	Plant Physiology
Geophysics	Political Science
German	Poultry Science
Greek	Psychology
History	Range Management
Home Economics	Sanitary Engineering
Horticulture	Slavic Languages and Literatures
Industrial Engineering	Slavic Studies
International Relations	Sociology and Social Institutions
Irrigation	Soil Science
Italian	Spanish
Landscape Architecture	Statistics
Latin	Vegetable Crops
Librarianship	Zoology
Linguistics	
Mathematics	

Residence (Attendance) Required

The student must be in residence at least one year. Four six-week summer sessions may be counted as the equivalent of one year of the regular session in satisfaction of the residence requirement for the master's degree. It is not always possible, however, to complete subject requirements within the minimum period of residence. A student is not regarded as a student in residence unless he is actually attending regularly authorized University exercises amounting to at least 4 units of work at the upper division or graduate level during a regular session, or two units of similar work during a summer session. While ordinarily all of the work for the master's degree is expected to be done in residence, graduates of this University or other approved candidates may complete a part of their work elsewhere, subject to the approval of the Graduate Council, and subject to the minimum residence requirement of one year (see the section immediately following).

Acceptance of Work Completed in Graduate Status Elsewhere

In exceptional cases, a limited amount of credit obtained at institutions of high standard may be accepted toward fulfilling the minimum unit require-

ment for the master's degree. In no case, however, will more than 4 units be allowed, and the whole record of the student must indicate superior scholarship. Where such allowance is made, the units accepted may not be used to reduce the minimum residence requirement or the minimum requirement in strictly graduate (200) courses.

Credit by Examination

Subject to the general regulations with respect to credit by examination and subject in every case to approval by the instructor in charge (by chairman of department in the case of courses not announced) and by the Dean of the Graduate Division, a limited amount of credit to apply toward the program proper for the master's degree may be secured by examination, with the following restrictions: credit may not be secured by examination in graduate seminar or research courses. Only students who are registered in course work amounting to at least 4 units in upper division or graduate courses may apply for credit by examination.

Thesis

The thesis must be typewritten or printed, or prepared in some other form acceptable to the Graduate Council. If it is typewritten, a good grade of 8½ by 11-inch medium-weight bond paper should be used. The pages must be unbound and without perforations, and the typing must be double spaced with a margin of at least 1½ inches on the left. The contrast must be adequate for photographic reproduction. For information on acceptable processes other than typing and printing, and for details as to the form of the thesis, the student should consult the Office of the Dean of the Graduate Division. One copy of the thesis (the original, if typewritten), when it shall have been approved by the committee in charge, must be filed with the Dean of the Graduate Division on a date specified in each semester. At the time of filing, if the student so desires, he may request a period of grace of one year (renewable for yearly periods but with a maximum of three extensions) in which to publish the thesis. If this request is not made, or if the period of grace expires, the University Library will reproduce the thesis on microfilm. This copy will insure the permanent availability of the thesis, and prints from it will be furnished on a non-profit basis in response to requests for interlibrary loans. When the period of grace expires, a notification will be sent to the author before the microfilm reproduction is prepared.

It is expected that the thesis will constitute 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, it should be attacked for solution in the same systematic and scholarly way as problems of greater magnitude—as, for example, those under investigation by candidates for the doctor's degree.

The thesis must be submitted to a committee of three members of the faculty appointed by the Dean of the Graduate Division of whom one shall be chosen preferably from outside the department of the major subject. The responsibility for placing the thesis in the hands of the members of the committee rests with the candidate.

Prospective candidates for the master's degree are required, before undertaking a thesis, to consult the members of the faculty committee appointed to read and pass upon it. Since the faculty committee is not appointed until after the student is formally advanced to candidacy by the Graduate Council, students should not begin work on master's theses until after such advancement. Those who do so must be prepared to make extensive revisions in their work if circumstances require it.

Following is the procedure for reporting on the thesis:

- (1) If the thesis is approved independently by the three members of the

committee, such approval should be indicated by the signatures of the members of the committee on the title page. The thesis should then be filed at the Office of the Dean of the Graduate Division for later deposit in the University Library.

(2) In case of doubt on the part of any member of the committee regarding the acceptability of the thesis, the chairman of the committee (member in charge of the thesis) should be notified to call a conference of the members of the committee to discuss the thesis. If the conference results in agreement on the acceptability of the thesis it should be signed by the three members of the committee and filed as specified above. In case of disagreement the thesis should be returned to the Dean of the Graduate Division with brief majority and minority reports setting forth the views of the members. If the thesis is rejected it should be returned to the Dean of the Graduate Division with a report to that effect from the chairman of the committee.



Bachelors of Arts or Science who are pursuing regular courses leading to a higher degree in the School of Medicine of this University may receive the master's degree under the following conditions:

(a) The candidate must have finished creditably two years of the curriculum of the professional school, one of which must represent the first graduate year.

(b) He must have received credit, in addition to the work for the professional degree, for 8-12 units of graduate work, and in addition for a thesis or comprehensive final examination; and such graduate work must be approved by the Graduate Council.

(c) The 8-12 units of strictly graduate work are subject to the usual student limitation and may be offered only by students of superior attainment with the approval of the dean of the professional school in which the student is enrolled, as authorized representative of the department. Further provision for candidacy may be found in the announcements of the professional schools.

(d) If the proposed major subject is in a field other than one of the principal professional fields of the school (i.e., anatomy, bacteriology, biochemistry, pathology, pharmacology, physiology), the candidate must meet the usual academic requirement of 23* or 27* units in the major subject, depending on the department selected for the major work. Thus a student in the School of Medicine desiring to become a candidate for the M.A. degree in political science is subject to the usual requirements of the Department of Political Science.

* See page 22

THE DEGREE OF DOCTOR OF PHILOSOPHY

THE DEGREE Doctor of Philosophy is granted at the University of California not merely for the fulfillment of technical requirements, such as residence and the completion of fundamental courses. The doctoral degree bears witness also to the grasp of a broad field of learning and of distinguished attainment in that field. It is a warrant of critical ability, of powers of imagination and synthesis. In addition to all this, it gives evidence through the dissertation that the candidate has made an original contribution to the knowledge of his chosen field of study.

Preliminary Preparation

A prospective candidate for the degree of Doctor of Philosophy must hold a bachelor's degree from one of the colleges of this University, based upon a curriculum that shall have included all requirements in the department of his major subject; or he must have pursued successfully a course of study equivalent to that represented by such a degree.

Residence (Attendance) Required

The minimum residence requirement for the doctor's degree is two years, at least one of which must be spent in continuous residence at the University of California. See also *Program of Study*, below.

Foreign Language Requirement

The foreign language requirement varies with the field and may in special cases vary with the individual candidate. Some departments require as many as five language examinations of every candidate. *The general minimum required for all departments is a reading knowledge of French and German.* But the department or group of departments primarily concerned with the applicant's field of study may, with the approval of the Graduate Council, substitute another language for those named above provided the language substituted is not linguistically too similar to the other one chosen from the above list. The language requirement must be satisfied before advancement to candidacy for the Ph.D. degree and should be satisfied before the qualifying examinations. The applicant must pass a written examination consisting of the translation of a passage from each language, so chosen as to be typical of the literature of the proposed field of study, and of a length sufficient to insure the adequacy of the candidate's reading ability. The examination shall be under the charge of the committee appointed to conduct the qualifying examination. This committee may itself set the examination, or may delegate the conduct of the examination to a member of the faculty; or it may review and accept a previous examination given by a member of the faculty. The committee will be held responsible for the judgment of the candidate's reading ability in the languages on which the student is examined, and for reporting the results of the examinations. The translation shall be made without the aid of a dictionary. Copies of the original passages and of the translations shall be filed with the Dean of the Graduate Division, who will supervise the standards of proficiency, and who may, if necessary, require a further test.

Program of Study

A program of study must be approved by the Graduate Council embracing a field of study previously approved by the department or group of departments concerned, and extending over a period of at least two years. The second or last year must ordinarily be spent in continuous residence at the University. But recommendation for the degree is based rather on the attain-

ments of the candidate than on length of time of study; and in many cases, owing to the nature of the subject or other circumstances, more than two years' time will be found necessary.

A field of study to be chosen by the student may lie in one department except for essential related subjects, or it may represent combinations of departments. As soon as the field of study has been chosen, the student should consult the graduate adviser concerned regarding the best sequence of courses to be taken in preparation for the qualifying examinations and the research problem.

Notice of Intended Candidacy

Notice of intention to proceed to candidacy for the Ph.D. degree should be given as early as possible during a graduate student's career—preferably at the end of the first semester of graduate study. Such notice should be given to the department or group of departments which represent the field of study selected by the student.

Qualifying Examinations

Before admission to candidacy a student must have met any deficiencies in his training and must have passed a series of qualifying examinations (including tests of a reading knowledge of foreign languages) before a committee to be appointed by the Graduate Council for that purpose. The department or group of departments primarily concerned with any examination may suggest to the Administrative Committee of the Graduate Council the names of persons to be included in such examining committees.

Advancement to Candidacy

Applicants for admission to candidacy for the degree of Doctor of Philosophy must report in person to the Dean of the Graduate Division, who determines whether all formal requirements have been met. The candidate must file his application for the degree, properly approved by the committee conducting the qualifying examinations. (For candidacy fee, see page 42.)

A minimum period of study, approximately equivalent to two semesters of the regular session, shall intervene between formal advancement to candidacy and the conferring of the degree.

Dissertation and Final Examination

(1) A dissertation on a subject chosen by the candidate, bearing on the principal subject of study, and of such character as to show power to prosecute independent investigation, must receive the approval of the special committee in charge of the dissertation [see (4) below] and of the Graduate Council before the degree is recommended. Special emphasis will be laid upon this requirement, and the degree will in no case be given merely for the faithful completion of a course of study, however extensive.

(2) The dissertation must be typewritten or printed, or prepared in some other form acceptable to the Graduate Council. If it is typewritten, a good grade of $8\frac{1}{2} \times 11$ -inch medium-weight bond paper should be used. The pages must be unbound and without perforations, and the typing must be double spaced with a margin of at least $1\frac{1}{2}$ inches on the left. The contrast must be adequate for photographic reproduction. For information on acceptable processes other than typing and printing, and for details as to the form of the dissertation the student should consult the Office of the Dean of the Graduate Division.

(3) Not later than three weeks before the proposed date of the final examination under Plan A [see (4) below] or not later than three weeks before the close of the semester in which the degree is to be conferred under Plan B, the candidate shall file with the Dean of the Graduate Division one copy of the

dissertation (the original, if typewritten) approved by the committee in charge. At the time of filing, if the student so desires, he may request a period of grace of one year (renewable for yearly periods but with a maximum of three extensions) in which to publish the dissertation. If this request is not made, or if the period of grace expires, the University Library will reproduce the dissertation on microfilm. This copy will insure the permanent availability of the dissertation, and prints from it will be furnished on a non-profit basis in response to requests for interlibrary loans. When the period of grace expires, a notification will be sent to the author before the microfilm reproduction is prepared. The Administrative Committee of the Graduate Council may in special cases under Plan A authorize the taking of the final examination before the dissertation is completed.

(4) The candidate shall be subject to the provisions of either Plan A or Plan B, as outlined below, depending upon the department or group of departments primarily concerned with his field of study. Each department or group of departments is required to adopt one of the two plans.

Plan A

The Administrative Committee of the Graduate Council shall appoint a committee of five members, which shall determine whether or not the candidate has met the requirements for the degree in accordance with the following procedure:

- (a) Three of the members of the committee shall be designated to guide the candidate in his research and to pass on the merits of his dissertation.
- (b) The whole committee shall conduct a final oral examination which shall deal primarily with questions arising out of the relationship of the dissertation to the general field of study in which the subject of the dissertation lies.
- (c) Admission to the final examination may be restricted to members of the committee, members of the Academic Senate, and guests of equivalent rank at other institutions.

Plan B

The Administrative Committee of the Graduate Council shall appoint a committee of three members, which shall guide the candidate in his research and shall pass upon the merits of his dissertation. This committee shall arrange for such conferences with the candidate as may be necessary for the complete elucidation of the subject treated in the dissertation. After presentation of the dissertation, but before final action has been taken upon it, the candidate may, at the discretion of the committee, be required to defend it in a formal oral examination.

Departmental Regulations

Each department is permitted to adopt regulations concerning requirements for the degree of Doctor of Philosophy, provided that all departmental regulations touching these matters be submitted to the Dean of the Graduate Division and be approved by the Graduate Council.

Choice of plans has been made by the several departments and groups, as follows:

Plan A

Agricultural Engineering
Anatomy
Applied Mathematics
Astronomy
Child Development
Civil Engineering
East Asiatic Studies

Economics
Electrical Engineering
Endocrinology
Engineering Science
English
Geology
German

Irrigation
 Latin-American Studies
 Librarianship
 Mathematics
 Mechanical Engineering
 Metallurgy
 Mining
 Music
 Near Eastern Languages
 Oriental Languages
 Pathology

Petroleum Engineering
 Philosophy
 Romance Literature
 Emphases: French, Italian,
 Spanish
 Romance Philology
 Sanitary Engineering
 Slavic Languages
 and Literatures
 Statistics

Plan B

Agricultural Chemistry
 Agricultural Economics
 Anthropology
 Bacteriology
 Biochemistry
 Biophysics
 Botany
 Chemical Engineering
 Chemistry
 Classical Archaeology
 Classics
 Emphases: Greek, Latin
 Comparative Biochemistry
 Comparative Pathology
 Comparative Pharmacology
 and Toxicology
 Comparative Physiology
 Education
 Entomology
 Genetics
 Geography
 Geophysics
 History

History of Art
 Home Economics
 Linguistics
 Medical Physics
 Microbiology
 Nutrition
 Paleontology
 Parasitology
 Pharmaceutical Chemistry
 Pharmacology
 Physics
 Physiological Optics
 Physiology
 Plant Pathology
 Plant Physiology
 Political Science
 Psychology
 Sanskrit
 Slavic Studies
 Sociology and Social
 Institutions
 Soil Science
 Zoology

Other Graduate Degrees and Certificates

THE DEGREE OF GRADUATE IN ARCHITECTURE

The specific requirements for the degree of Graduate in Architecture are set forth in the Graduate Division bulletin entitled ANNOUNCEMENT IN THE FINE ARTS and in the GENERAL CATALOGUE, DEPARTMENTS AT BERKELEY.

THE DEGREE OF DOCTOR OF PUBLIC HEALTH

Information concerning requirements for certificates and higher degrees in public health will be found in the ANNOUNCEMENT OF THE SCHOOL OF PUBLIC HEALTH and may also be obtained by addressing the Dean of the School.

THE DEGREES OF DOCTOR OF EDUCATION, DOCTOR OF ENGINEERING, JURIS SCIENTIAE DOCTOR, DOCTOR OF MEDICINE, AND DOCTOR OF VETERINARY MEDICINE

Information concerning professional doctor's degrees is contained in the separate announcements of the several departments and schools.

Multiplication of Degrees

THE BACHELOR'S DEGREE FOR GRADUATE STUDENTS

The University of California discourages candidacy for a second bachelor's degree of the *same designation* on the part of graduates from other institutions who are admitted to the Graduate Division, even if the proposed major is in a new field. If such students desire a degree from the University they should become candidates, if qualified, for a higher degree after the completion of the requirements for admission in the department of their proposed major subject. Graduates of other institutions who are not admissible to the Graduate Division should become candidates for a bachelor's degree.

The same work is not allowed to count for both a bachelor's and a master's degree.

Duplication of Higher Degrees

The duplication of higher degrees is discouraged for the same reasons which apply to the duplication of the bachelor's degree.

Higher Degrees for Members of the Academic Senate

A member of the Academic Senate of professorial rank may not become a candidate for any higher degree to be conferred by the University. Instructors are not eligible for an advanced degree in the University of California after they attain a right to vote in the Academic Senate.

COURSES

Definition of a Graduate Course

A graduate course is a highly advanced course in a field of study which has already been intensively presented in the upper division. Graduate courses demand, on the part of both instructors and students, either a degree of critical analysis, or a specialization of research not normally appropriate to an undergraduate major. Graduate courses may be conducted in several ways: (1) as lecture courses designed to organize the results of original research; (2) as seminars, in which instructors and students present critical studies of an organized field of knowledge; or (3) as individual research projects carried on under the supervision of the instructor.

Thus, although graduate work is designated as course work, and credit values are assigned on its completion, its main purpose is not so much to impart information as to develop technique—to inspire independence of mind and originality in the search for truth. The accumulation of the necessary credits and the fulfillment of prescribed residence are not sufficient to meet the requirements for higher academic degrees. The candidate must, in the judgment of his instructors and of his committee, have attained a mastery of his chosen field which warrants his capacity for research. For this reason promising graduate students are accorded considerable liberty in so far as enrollment in courses is concerned, provided they meet the minimum enrollment necessary to establish residence.

Enrollment in Graduate Courses

Courses numbered in the 200 series should be chosen only by prospective candidates for the master's degree (after the completion of the major) and by candidates for the doctor's degree. Graduate courses completed before attaining the bachelor's degree will not be accepted in partial fulfillment of minimum requirements in the 200 series for the master's degree. Many upper division courses serve the purpose of extending and confirming the scholarly background of a graduate student in his chosen field and these should be pursued before enrollment in graduate courses. The fact that a student holds a bachelor's degree does not in itself entitle him to enroll in graduate courses; neither is a graduate student required to confine the selection of courses to the 200 series.

As a condition for enrollment in a graduate course the student must submit to the instructor in charge of the course satisfactory evidence of preparation for the work proposed; adequate preparation will consist normally of the completion of at least 12 units of upper division work basic to the subject of the graduate course, irrespective of the department in which such basic work may have been completed.

The admission of undergraduates to graduate courses is limited to seniors who have an average scholarship grade of not lower than B in the basic courses; the study-list limits in such cases are the limits imposed by the rules of the Graduate Division (see page 26).

PROFESSIONAL OR VOCATIONAL COURSES

Courses in the 300 and 400 series are regarded as nonacademic or vocational courses, especially designed to meet the requirements for certificates. As such they do not fall in the class of academic upper division or graduate courses which may be offered in partial fulfillment of the minimum requirements for academic higher degrees.

SUMMER SESSIONS

The summer sessions of six weeks each are designed chiefly for teachers and other persons who are unable to attend the University during the fall and spring semesters. There are at present no formal entrance requirements, except that applicants must be considered by the faculty to be of sufficient maturity and intelligence to profit by attendance upon the exercises of the sessions. The courses of instruction are mainly of university level, and credit toward university degrees may be given to persons who meet the requirements imposed by the instructors in charge.

For each six-week session a tuition fee of \$51 is charged residents and nonresidents alike, irrespective of the number of courses taken.

By attending both six-week summer sessions, graduate students may obtain credit for one semester of residence and 12 units of work in upper division courses. A student who includes a graduate course in his summer sessions program, i.e., a course in the 200 series, is limited to a program of 4 units.*

Persons who do not contemplate work toward a higher degree or certificate may register in the summer sessions unclassified and may enroll in any courses for which they have met the prerequisites. Such persons need not file credentials nor make formal application for admission to graduate standing, but they must file the summer session application. It is advisable, however, for graduate students to provide themselves with official college and university records in the event that they may wish to apply for excess of the study-list limit. Such documents are convenient for purposes of conference with graduate advisers, and sometimes necessary when questions of eligibility for admission to a strictly graduate course arise.

The SUMMER SESSIONS BULLETIN is issued early in the spring of each year and may be obtained by addressing the Summer Sessions Office, Administration Building, University of California, Berkeley 4, California.

In addition to the summer sessions on the Berkeley campus, summer sessions are also conducted on the Los Angeles and Davis campuses of the University.

Summer Session Work for Higher Degrees

Graduate students desiring to offer summer sessions courses in partial fulfillment of the requirements for the master's degree or Certificate of Completion of the Teacher-Training Curricula are subject to the same regulations concerning admission to graduate status, etc., as students in the regular session (see pages 21-23). Before registering, such students should carefully ascertain from the SUMMER SESSIONS BULLETIN whether suitable courses are offered to meet the departmental and general requirements set forth in this announcement and in the departmental graduate announcements. Not all the upper division courses given in the summer sessions may be offered in satisfaction of the requirements for the master's degree. A list of acceptable courses is published annually for the use of students in the summer sessions.

Except by special arrangement, work for the Ph.D. degree can ordinarily be pursued only during regular sessions. Although one summer session is not accepted toward the minimum residence for the Ph.D. degree, two summer sessions in the same year, constituting the equivalent of a continuous semester, may be accepted toward the minimum residence requirement. In planning a program for a higher degree candidates must bear in mind that the members of the regular staff are not on duty in the summer months. Admission to candidacy does not constitute a claim upon the vacation time of members of the faculty for direction of theses and dissertations.

* Exceptions to this rule may be made only by permission of the Dean of the Graduate Division.

Candidates for higher degrees who have completed residence requirements and all subject requirements except the thesis or final examination may enjoy the facilities of the University during the summer on the same conditions as in the regular session (see page 24).

UNIVERSITY EXTENSION

The University of California, by means of its *University Extension*, serves persons who seek some form of educational training but are prevented from enrolling at the University as resident students. This service is available in all parts of California, and is designed to meet the needs of adults in any stage of educational advancement. *University Extension* thus puts within the reach of the people of California some of the facilities of the University. It endeavors to help citizens utilize their leisure, meet more fully their civic responsibilities, and advance in their industrial, business, and professional vocations.

Credit for work taken in University Extension, whether in class or correspondence courses, may not be applied toward programs for higher degrees or for certificates under the control of the Graduate Division. Requirements for the General Secondary Credential and other teachers credentials may be met *in part*, however, by courses offered in *University Extension*, subject to the following conditions: (1) the candidate's program of study must in each case be approved in advance by the School of Education at Berkeley or at Los Angeles; (2) extension courses included in the program must be upper division courses designated by numbers with the prefix X, XB, or XL; (3) in no case may extension courses constitute more than one-half of the total program offered in satisfaction of the unit requirement for the Certificate of Completion for the General Secondary Credential; (4) at least one-half of the residence requirement for the Certificate of Completion must be completed in a fall or spring semester of the University of California.

FEES AND EXPENSES*

Payment of fees by check, draft, or money order must be for the exact amount of the fee involved, and should be made payable to The Regents of the University of California.

Application Fee

An application fee of \$5† is charged all persons seeking admission to the Graduate Division of the University of California as new graduate students. This fee is payable to The Regents of the University of California and should accompany the Application for Admission. *Please note that the fee is not returnable under any circumstances.*

Incidental Fee

All graduate students in the academic departments at Berkeley, Davis, and San Francisco pay an incidental fee of \$42 each semester at the time of registration, irrespective of the number of units for which they are enrolled. The incidental fee covers certain expenses of students for library books, for athletic and gymnasium facilities and equipment, for lockers and washrooms, for registration and graduation, and for such consultation, medical advice, and hospital care or dispensary treatment as can be furnished by the Student Health Service. (See page 59.)

Persons who have been employed full time by the University for at least six months immediately prior to the date of registration and who desire to register as students under the existing personnel rules are permitted to enroll in regular session courses of 3 units or one course, whichever is greater, upon payment of 50 per cent of the incidental fee. Employees so registered are ineligible for the services and facilities of the Counseling Center, the gymnasiums, or the Student Health Service (other than for required vaccinations and screening examinations for contagious diseases). This privilege is subject to all of the usual requirements for admission to the University and to the course chosen. Persons wishing to avail themselves of this privilege should apply to the campus Personnel Office after receiving the approval of their department heads.

Tuition Fee

Tuition is free to legal residents of the State who are engaged in graduate study and research offered solely in fulfillment of the requirements for academic higher degrees in the academic departments of the University at Berkeley, Davis, San Francisco, and Mount Hamilton.

Nonresidents of California (including resident aliens who have not made valid declaration of intention to become citizens) are charged a tuition fee of \$150 each semester. Exceptions will be limited to students who are unable to devote more than half time to academic study (1) for reasons of health as certified by the Student Health Service, or (2) for reason of full-time employ-

* For cost of board and lodging see page 60.

† Veterans with service prior to July 25, 1947, who expect to enroll under the provisions of Public Law 346 (the G.I. Bill of Rights) or Public Law 16, are not required to remit this fee. Persons enrolling under Public Law 550 must, however, pay this fee at the time of application.

ment in salaried positions when certified by a statement from the employer. Where exceptions are made on the foregoing bases, the student's program will be limited to 4 units of course work in the "200" series or the equivalent thereof, and the nonresident tuition fee will be \$75 a semester. Petition for half fee based on the above criteria must be submitted to the Office of the Dean of the Graduate Division; otherwise, all students are presumed to be full-time students, irrespective of the number of units for which they are enrolled.

Waiver of the Nonresident Tuition Fee

The nonresident tuition fee may be waived for students who are admitted without deficiencies, who have proved that they are distinguished scholars, and who are carrying full programs toward the fulfillment of requirements for academic higher degrees. *This privilege does not extend to students in the professional schools and curricula, i.e., Law, Medicine, Public Health, Veterinary Medicine, Education (teacher training, M.Ed. and Ed.D. degrees), Bioradiology, City Planning, Forestry (M.F.), Journalism, Librarianship, Optometry, Pharmacy, Social Welfare, Criminology, Dental Surgery, Engineering (M.Eng. and D.Eng.), and Hospital Dietetics.* No graduate student, however distinguished his scholarship may have been, will be exempted from the payment of the tuition fee if he is carrying only lower division courses or any courses merely for his cultural advancement.

The term *distinguished scholarship* will be interpreted as follows: The scholarship standing must have been excellent throughout a period of no less than two years just preceding the time of application for this privilege. Moreover, only students from institutions of high standing in scholarly work will be considered. Applicants for this privilege may be required to have sent to the Dean of the Graduate Division confidential letters about themselves from persons who are thoroughly acquainted with their personalities and their intellectual achievements. Thus it should be clear that only the decidedly exceptional student will be eligible for the privilege of exemption from the payment of tuition if he is a nonresident. Students exempted from the tuition fee pay only the incidental fee.

The privilege of exemption from the nonresident tuition fee may be revoked at any time at the discretion of the Dean of the Graduate Division, if in his judgment a student fails to maintain distinguished scholarship, or if he proves himself unworthy in other respects.

Fee Statements

Nonresident graduate students who are exempt from the nonresident tuition fee under the circumstances described above, or whose petitions for half the nonresident fee have been approved, must secure from the Dean of the Graduate Division before registration a statement of fees for presentation at the registration desk. Otherwise full fees will be charged.

Until fees are adjusted the student is held to the full amount of incidental and tuition fees. After the adjustment has been made, the student will receive the refund to which he is entitled; but students are warned that to be accorded the privilege of exemption from the nonresident tuition fee, application, if not made prior to registration, should be made not later than two weeks after the opening of the semester.

Candidacy Fee

A fee of \$10 is charged each applicant for advancement to candidacy for the Ph.D., Ed.D. and D.Eng. degrees. No student will be formally advanced to candidacy without payment of this fee.

Library Fee

Candidates for the master's degree, in residence at the University, who have completed all residence requirements, course requirements, and research, and who are engaged only in the actual writing of the thesis under **Plan 1** or who are studying for the comprehensive final examination under **Plan 2**, and who are taking no further work in residence courses, including research courses, may register without fees (see page 24). If such students desire library privileges, however, they must obtain from the Library the *Special Borrowing Privilege* on payment of a fee of \$6 a year. These students are not eligible, however, for hospital or other services covered by the incidental fee. Candidates for the Ph.D. and Ed.D. degrees (see page 24) may also avail themselves of this privilege, provided (1) that they have completed the minimum residence requirement, and all other requirements for the degree, except the actual writing of the dissertation, and the final examination, and (2) that they are not enrolled in any resident or research courses in the University.

Other Expenses

Graduate students are eligible for membership in the Associated Students of the University of California. The cost of a membership card is \$15 a year. A membership card entitles the holder to participate in the affairs of the Associated Students; a free subscription to the *Daily Californian*; free or reduced admission to all athletic contests held on the campus under the jurisdiction of the Associated Students; and membership in the Associated Students' Store.

All graduates of the University of California are eligible to join the University of California Alumni Association; graduates of other institutions who have completed at least one semester of residence in graduate status at this institution are also eligible for membership. The cost of membership is \$5 a year. Membership cards may be obtained at the office of the Executive Manager of the Alumni Association, Alumni House.

FELLOWSHIPS, GRADUATE SCHOLARSHIPS, AND ASSISTANTSHIPS

APPLICATIONS FOR FELLOWSHIPS and graduate scholarships at the University of California will be received each year after the middle of December. At this time, the Dean of the Graduate Division will furnish on request, bulletins listing the awards available to graduate students for the ensuing academic year, and the appropriate forms of application for them. All applications, together with letters of recommendation and official transcripts of all college and university work completed, must reach the office of the Dean of the Graduate Division *on or before February 15 (February 16 if the 15th falls on Sunday) preceding the academic year for which awards are to be made.* This is the final date, but it is advisable for the applicant to file fellowship material one month in advance if possible.

Applications will not be sent by air mail unless the applicant forwards in advance sufficient postage to cover the cost of 2½ ounces of air mail or if in a foreign country, international coupons to cover the cost of 2½ ounces of air mail postage.

The awards are announced on 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 Association of American Universities require that anyone who resigns an accepted appointment must, in order to become eligible to fill a vacancy in a member institution, receive consent to do so from the university which first appointed him.

Criteria of Appointment

The Graduate Council has adopted certain criteria as general policy in selecting candidates for fellowships and graduate scholarships. Awards are made as a mark of honor, primarily on the bases of scholarship and promise of outstanding academic and professional contribution. The purpose of graduate appointments is to provide able and productive scholars for the future. For this reason the age limit in general for appointees is 32. In the evaluation of applications consideration is given to the extent and quality of previous graduate work, evidence of ability in research or other creative accomplishment, of intellectual capacity, and of promise of productive scholarship. Unless otherwise specified, each award is for one year. Candidates who have held substantial fellowships from the University of California for two years are normally regarded as ineligible for further appointment.

The fundamental purpose of fellowships and graduate scholarships is to enable outstanding students to devote their full time to graduate study and research. To that end students were, in past years, precluded from accepting other employment concurrent with their tenure of a fellowship or graduate scholarship. However, in view of current living costs the President of the University has authorized the Dean of the Graduate Division to approve a *limited* amount of paid employment for the holder of a fellowship or scholarship, provided the student in question is able at the same time to carry with distinction a full program of graduate study. Any requests for approval of such employment must be transmitted by the student's graduate adviser to the Dean of the Graduate Division.

Information concerning fellowships and graduate scholarships at the University of California, Los Angeles campus, may be obtained by addressing the Dean of the Graduate Division, Southern Section, University of California, Los Angeles 24, California.

***FELLOWSHIPS AND GRADUATE SCHOLARSHIPS TENABLE
FOR THE ACADEMIC YEAR 1954-1955**

GENERAL FELLOWSHIPS

University Fellowships. Open to graduate students in any academic department (or in professional schools, provided the student is engaged in research).

Fifteen, yielding \$1,500 each.

Class of 1883 Fellowship. Open to graduate students in any department.

One traveling fellowship, yielding \$2,000

or

One resident fellowship, yielding \$1,500.

McLean, May J., Fellowship. Open to graduate students in any department.

One, yielding \$1,000.

Rosenberg, Alice J., Research Fellowship. Open to graduate students engaged in research in any department.

One, yielding \$1,200.

Sutton, James, Fellowship. Open to graduate students in any department.

One, yielding \$1,200.

PARTIALLY RESTRICTED FELLOWSHIPS

Brittan, John Wesley, Fellowship in Classics. Open to men and women students not over the age of thirty years who were born in California and who hold a postgraduate degree from the University of California and who are specializing in Greek archaeology or art, Greek history, Greek philosophy, or Greek literature and philology. This award is to be given as a traveling fellowship for the purpose of affording to some scholar an opportunity for archaeological research and investigation of historical sites.

One traveling fellowship, yielding \$2,500.

Calmerton, Gail H., Scholarships. Open to worthy and needy students in any department.

Two, yielding \$1,200 each.

Claypole, Edith, Memorial Research Fellowship in Pathology. Open to women pursuing graduate study in the fields of medicine known as pathology and bacteriology. (Men pursuing graduate study in the same fields may apply, and such applications will be considered if none of the women applicants are acceptable.)

One, yielding \$1,200.

***Colin, Therese F., European Graduate Fellowship in Romanic Languages.** Open to students in the Romanic Languages who wish to pursue graduate study in Europe.

One traveling fellowship, yielding \$1,400.

* The fellowships and graduate scholarships marked with an asterisk (*) are open only to graduates of the University of California; this includes graduates of any campus of the University. All others are open, unless otherwise specified, to competition by graduates of the University of California or of other colleges or universities.

Dowdle, Dr. E. E., Research Fellowships. Open to postdoctoral applicants engaged in research upon "the causes, and the prevention and cure, of tuberculosis and insanity in mankind." Fellows are to be attached to the School of Public Health or the School of Medicine, or both.

Two, yielding \$4,000-\$6,000 each, depending upon the qualifications of the applicants.

***Gayley, Charles Mills, Fellowships.** Appointments to these fellowships are to be made without application and will be based on the desire of the persons selected to pursue graduate study at Berkeley or elsewhere, and on their possession of the qualities of leadership, character, and future promise.

Three, yielding \$300 each.

Goewey, James M., Fellowship. Open to students in any of the scientific branches of learning.

One, yielding \$1,500.

Heller, Hattie, Graduate Scholarship. Open to needy graduate students in any department of the University.

One, yielding \$500.

***Heller, Sigmund Martin, Traveling Fellowship.** Open to graduates of any of the academic colleges of the University. This fellowship is established for the purpose of making possible advanced study by distinguished graduate students in any part of this country or in other countries.

One, yielding \$1,100.

***Johnson, Amy Bowles, Memorial Fellowship.** Open to graduate students whose chief study in the University is concerned with research in some field of scholarship. This fellowship may be awarded as a resident or a traveling fellowship depending on the character of the applications.

One, yielding \$2,000.

Jordan, Alfred B., Fellowship. Open to persons who have come to the United States from Germany for the purpose of pursuing studies of collegiate grade, and tenable only in residence at the University of California at Berkeley. In the event that there are no applicants eligible under these provisions, an appointment may be made from among other applicants for fellowships. Each applicant must submit, in addition to the information requested on the application, a fairly long statement in English about his life and training and why he wishes to work at the University of California.

One, yielding \$1,000.

Kofoed, Charles Atwood, Eugenics Fellowships. Open to deserving graduate students in any department, attending the University of California at Berkeley, married students to have a preference.

Four, yielding \$1,700 each.

Korean American Cultural Association Scholarship. Open to graduate students of Korean nationality who are studying for the master's degree. As a part of his training in bibliography the scholar may be allowed to assist in the development of the Korean Collection in the University Library.

One, yielding \$300.

***LeConte Memorial Fellowship.** Open to graduates in any department, of not more than three years' standing at the time of the award, who wish to pursue advanced study at the University of California or elsewhere.

One, yielding \$1,200.

* See asterisk (*) footnote on page 45.

Loewy, Walter, Scholarship. Open to needy graduate students from Germany who wish to pursue their studies at the University of California, or to graduate students from the University of California for study at the University of Heidelberg, Germany. Each applicant for a resident scholarship must submit, in addition to the information requested on the application, a fairly long statement in English about his life and training and why he wishes to work at the University of California.

One traveling scholarship tenable at Heidelberg, yielding \$1,500

or

One resident scholarship, yielding \$1,500.

McDonald, James Monroe, Scholarships. Primarily for undergraduates of the University of California, but may be awarded for a year of postgraduate study at the discretion of the departments concerned. They are available in the fields of agriculture, chemistry, civil engineering (sanitary and municipal engineering), geology, mining engineering, mining and metallurgy, and physics. The stipends vary in amount.

McEnerney, Genevieve, Fellowships. Open to graduate women students in any department.

Six, yielding \$1,500 each.

Mills, William Harrison, Fellowship in International Relations. Open to graduate students of exceptional ability and promise from any American university who have made some study of the language and literature, the political, social, and economic conditions, and the diplomatic relations of one or more of the countries of Central or South America or Eastern Asia, and who desire to undertake studies bearing on the social, economic, or diplomatic relations of the United States with any one or more of such countries, in or under the direction of the faculty of the University of California. Applicants must be American citizens of the white race who have no permanent home in and do not propose to live permanently in any foreign country. It is the hope of the donor of these fellowships that students who receive the awards shall prepare themselves to represent this country in the diplomatic service or in our commercial relationships with countries bordering on the Pacific Ocean.

One traveling fellowship, yielding \$2,000.

Murison, Elizabeth Livingstone, Scholarship. Open to women students in the professional curricula at Berkeley.

One, yielding \$500.

Newhouse Foundation Scholarships. Open to graduate students in the medical, dental, legal, engineering, or teaching fields. Applicants for these awards must supply, in addition to the material necessary for other fellowship applications, a statement of financial need as well as a statement indicating that they have never been members of a fraternity or sorority other than Phi Beta Kappa or other similar honor societies.

Eleven, yielding \$500 each.

Phelan, James, Scholarship in Literature and Art. Open to graduate or undergraduate students who give evidence of exceptional ability in creative work in literature or art.

One resident fellowship, yielding \$1,200

or

One traveling fellowship, yielding \$1,200.

Richards, Mabel Wilson, Scholarships. Open to needy and worthy women graduate students who have been residents of the Los Angeles metropolitan area for at least two years prior to the date of applying for the scholarship.

In addition to the material required for the other fellowship applications, students applying for these awards must submit the following documents *in duplicate*: a letter of application stating their reasons for applying for this scholarship and their plans for the future, as well as a statement of their willingness to work; *official* transcripts of all college and university work (including those from the University of California); letters of recommendation; a statement as to the dates of legal residence in the Los Angeles area; and a statement as to financial need.

Three, yielding \$1,200 each.

Rosenberg, Abraham, Research Fellowships. Open to distinguished students in the fields of the natural sciences, particularly those having relation to the field of medicine.

Four, yielding \$1,500 each.

Scott, Werner E., Scholarships. Open to graduate or undergraduate Caucasian students residing in the Territory of Hawaii. The scholarships may be awarded for study in any department of the University.

One graduate scholarship, yielding \$1,200

or

Two undergraduate scholarships, yielding \$600 each.

Shoong, Joe, Fellowship. Open to American-born students of Chinese descent in any department.

One, yielding \$1,200.

Sloss, Louis and Sarah, Scholarship. Open to students in the professional curricula.

One, yielding \$400.

***Taussig Traveling Fellowship.** Open to graduate students from any of the academic colleges of the University who desire to pursue advanced study or research at some advantageous point outside the University of California.

One, yielding \$1,100.

Thompson, Willard D., Memorial Scholarships. Open only to graduate and undergraduate students who are legal residents of Utah.

Three graduate scholarships, yielding \$1,300 each.

One undergraduate scholarship, yielding \$500.

Wall, Dr. Benjamin P., Memorial Scholarships in English and the Classics. Open to students in English and in the classics, and to be awarded, in so far as is practicable, to help stimulate the work in the cultural (aesthetic) side of the training of the youth of the University.

Two, yielding \$1,000 each.

Zovick, Neshan, Fellowship. Open to needy students of Armenian descent who have attained high scholastic standing.

One, yielding \$1,200.

FELLOWSHIPS RESTRICTED TO SPECIFIC FIELDS OF STUDY

Agricultural Sciences

Agriculture Fellowship. Open to graduate students in any of the agricultural sciences.

One, yielding \$950.

* See asterisk (*) footnote on page 45.

Allied Chemical & Dye Corporation Fellowship in Entomology or Plant Pathology. Open to graduate men students, citizens of the United States, of demonstrated ability for research, preferably those who expect to qualify for the Ph.D. degree at the end of the academic year for which the fellowship is awarded. In addition to the stipend, the fellowship will cover fees.

One, yielding \$1,500 for a single person or \$2,000 for a married person.

Animal Husbandry, Research Fellowships in. Open to graduate students carrying on graduate study and research under the direction of animal husbandry staff members.

Two, yielding \$1,500 each.

Bidwell Research Fellowship in Forestry. Open to graduate students who wish to pursue research and advanced study in forestry and who have had at least twenty units in forestry courses in a school of good standing.

One, yielding \$900.

Brownell, Dr. E. E., Memorial Fellowship in Animal Husbandry. Open to graduate students who wish to pursue study and research, preferably in wool technology, but possibly in other phases of animal husbandry.

One, yielding \$1,200.

Carr, Jesse D., Fellowship in Agriculture. Open to graduate students in agriculture.

One, yielding \$1,200.

Davis, Horace and Edith King, Memorial Fellowship. Open to graduate students in genetics (plant breeding).

One, yielding \$1,500.

Germain's, Inc., Research Fellowship in Genetics and Plant Breeding. Open to graduate students who desire to pursue graduate study in genetics as related to the improvement of field and truck crops.

One, yielding \$500.

Heller, Samuel W., Memorial Fellowship in Landscape Architecture. Open to graduate students in landscape architecture.

One, yielding \$1,000.

Kimber Fellowship in Poultry Genetics. Open to outstanding graduate students in the field of poultry science.

One, yielding \$2,000 for a single person or \$3,000 for a married person.

Kraft, Herbert, Scholarship. Open to graduate students in agriculture. This scholarship is limited to students who have graduated from a Tehama County high school and who either personally or whose parent or parents have resided in Tehama County for at least five years.

One, yielding \$1,200.

Myers, Frank and Ivy, Scholarship. Open to male graduate students in any of the agricultural sciences.

One, yielding \$1,200.

Rosenberg, James, Memorial Scholarship in Agriculture. Open to graduate students in any of the agricultural sciences who are judged to be qualified to carry on research that will contribute to the welfare of the farming communities of California.

One, yielding \$500.

Anthropology

Lowie, Robert H., Graduate Scholarship. Open to graduate students in anthropology.

One, yielding \$400.

Architecture

Architecture Traveling Fellowship. Open to graduate students who wish to pursue advanced study in architecture.

One, yielding \$750.

Skidmore, Owings & Merrill Fellowships in Architecture. Open to graduate students in architecture, preferably one to a student coming from outside California and one to a student in the University.

Two, yielding \$500 each.

D. Zelinsky & Sons Foundation Scholarship in Architecture. Open to graduate students in the School of Architecture.

One, yielding \$200.

Astronomy

Lick Observatory Fellowships in Astronomy. Open to properly qualified graduate students in astronomy. Appointees to these fellowships devote their attention to graduate study and, as a part of their research, may assist in the work of the Lick Observatory. Holders of these fellowships are usually permitted to spend one semester of each year at Berkeley to carry on study at the A. O. Leuschner Observatory.

Three, yielding \$1,500 each.

Biochemistry

Du Pont Company Postgraduate Fellowship in Biochemistry. Open to graduate students in biochemistry who have been admitted to candidacy for the Ph.D. degree, who have the qualifications for success in research work, and who are fitted by ability, character and loyalties to fill responsible positions in industry, education or government in the United States. In addition to the stipend, the fellowship will cover fees.

One, yielding \$1,500 for a single person or \$2,100 for a married person.

Business Administration

Drum, Frank G., Scholarship. Open to graduate students in the School of Business Administration preferably those specializing in banking and finance.

One, yielding \$800.

Flood Fellowship in Business Administration. Open to graduate students in business administration.

One, yielding \$1,200.

Smith, William, Memorial Fellowship. Open to graduate students in business administration or retail merchandising, or both.

One, yielding \$1,000.

Chemical Engineering

Dow Fellowship in Chemical Engineering. Open to graduate students in chemical engineering. In addition to the stipend, the fellowship will cover fees.

One, yielding \$1,600 for a single person or \$2,000 for a married person.

Chemistry

Allied Chemical & Dye Corporation Fellowship in Physical Chemistry. Open to graduate men students, citizens of the United States, of demonstrated ability for research, preferably those who expect to qualify for the Ph.D. degree at the end of the academic year for which the fellowship is awarded. In addition to the stipend, the fellowship will cover fees.

One, yielding \$1,500 for a single person or \$2,000 for a married person.

Dow Fellowship in Chemistry. Open to graduate students in chemistry. In addition to the stipend, the fellowship will cover fees.

One, yielding \$1,600 for a single person or \$2,000 for a married person.

Eastman Kodak Fellowship in Chemistry. Open to needy graduate men students, citizens of the United States, who have demonstrated ability in the field of chemistry. In addition to the stipend, the fellowship will cover fees.

One, yielding \$1,400.

General Electric Fellowship in Chemistry. Open to graduate students in chemistry. In addition to the stipend, the fellowship will cover fees.

One, yielding \$1,400 for a single person or \$2,100 for a married person.

Shell Fellowship in Chemistry. Open to graduate students in chemistry, preferably citizens of the United States or Canada, who are in the second year or higher of graduate study. In addition to the stipend, the fellowship will cover fees.

One, yielding \$1,500.

Union Carbide and Carbon Fellowship in Chemistry. Open to graduate students in chemistry who are candidates for the Ph.D. degree and who expect, after their training is completed, to devote themselves to scientific work, academic or industrial, in the United States. In addition to the stipend, the fellowship will cover fees.

One, yielding \$1,400 for a single person or \$2,100 for a married person.

United States Rubber Company Postgraduate Fellowship in Chemistry. Open to men graduate students in chemistry who are candidates for the Ph.D. degree. In addition to the stipend, the fellowship will cover fees.

One, yielding \$1,400 for a single person or \$2,100 for a married person.

Economics

Booth, Newton, Fellowship in Economics. Open to graduate students in economics.

One traveling fellowship, yielding \$1,500

or

One resident fellowship, yielding \$1,500.

Education

California Congress of Parents and Teachers Secondary Teacher Education Scholarships. Open to graduate students preparing for the general secondary credential who intend to teach in the public secondary schools in California.

Two, yielding \$400 each.

Wilson, Allen D., Memorial Scholarship. Open to needy graduate students in the teacher-training curricula who profess a belief in God and are of good moral character.

One, yielding \$300.

Engineering

Automotive Safety Foundation Fellowships in Highway Transportation Engineering. Open to graduate students in the field of highway transportation engineering. Preference will be given to those who have had practical experience in highway transportation engineering since college. The stipend will cover two semesters and two summer sessions, taken consecutively. In addition to the stipend, the fellowships will cover fees.

Two, yielding \$1,500 each.

Derby, Harry Stuart, and Alice Urquhart Derby, Scholarship. Open to graduate students, preferably in mining engineering.

One, yielding \$1,000.

General Electric Fellowship in Metallurgy. Open to graduate students in metallurgy. In addition to the stipend, the fellowship will cover fees.

One, yielding \$1,400 for a single person or \$2,100 for a married person.

Hilp, Harry H., Fellowships in Engineering. Open to graduate students engaged in research in the engineering field.

Two, yielding \$1,200 each.

International Business Machines Corporation Fellowship. Open to graduate students in electrical engineering.

One, yielding \$2,000.

Lane-Wells Company Fellowship in Petroleum Engineering. Open to graduate students engaged in study and research in petroleum engineering.

One, yielding \$1,500.

Shell Fellowship in Mechanical Engineering. Open to graduate students in mechanical engineering, preferably citizens of the United States or Canada, who are in the second year or higher of graduate study. In addition to the stipend, the fellowship will cover fees.

One, yielding \$1,500.

Smith, Irving and Lucile, Scholarship. Open to graduate men students in engineering.

One, yielding \$1,500 per year for two years.

Tasheira, Arthur Gould, Fellowship. Open to worthy and deserving students in engineering.

One, yielding \$1,100.

History

Panama-Pacific International Exposition Memorial Fellowship in Pacific Coast History. Open to graduate students in Pacific Coast history. The holder of the fellowship is expected, in addition to carrying regular graduate study, to write a brief report upon some subject connected with international expositions.

One, yielding \$500.

Riordan, Archbishop, Scholarship in American History. Open to graduate students in the field of American history.

One, yielding \$350.

Italian

Vaughan, Herbert H., Scholarships. Open to graduate students in Italian.

Two, yielding \$300 each.

Law (School of Law, Berkeley)

***Ayer, John Woodman, Fellowship in Law.** Open to worthy and needy men graduates of the University of California studying in the School of Law.

One, yielding \$650.

Goodfellow, William Scott, Scholarship in Law. Open to students in the School of Law.

One, yielding \$350.

* See asterisk (*) footnote on page 45.

Haight, Henry Huntly, Scholarship in Law. Open to students in the School of Law.

One, yielding \$100.

Johnson, Walter Perry, Graduate Research Fellowships in Law. Open to graduate students in the School of Law who are engaged in research leading to the LL.M. or J.S.D. degrees.

Several, yielding \$400 to \$3,000 each.

Johnson, Walter Perry, Scholarships in Law. Open to students in the School of Law who are working toward the LL.B. degree.

One, yielding \$800.

Two, yielding \$400 each.

Four, yielding \$300 each.

Three, yielding \$200 each.

Jones, William Carey, Scholarship in Law. Awarded annually to one of the first five leading scholars in the School of Law. Awards will be made without application on the part of students.

One, yielding \$175.

Law Research Fellowships. The income from this fund is to be used to support research by students in the School of Law with interest and capacity for original work. Awards will be made without application on the part of students. The stipends vary in amount.

McAllister, Hall, Scholarship in Law. Open to students in the School of Law.

One, yielding \$150.

McKee, Samuel Bell, Memorial Fellowships in Law. Open to needy and deserving students in the School of Law.

One, yielding \$450.

One, yielding \$400.

Mhoon, John Bell, Scholarship in Law. Open to students in the School of Law.

One, yielding \$600.

Pixley, Frank M., Scholarship in Law. Open to students in the School of Law.

One, yielding \$150.

Rothchild, Walter, Scholarship in Law. Open to students in the School of Law.

One, yielding \$350.

Sanborn, Sheffield, Scholarship. Open to needy students in the School of Law.

One, yielding \$300.

Tasheira, Arthur Gould, Fellowships. Open to worthy and deserving students in the School of Law.

One, yielding \$600.

One, yielding \$500.

Turner, Shannon Cecil, Scholarships. Open to needy students of the white race who are pursuing study in the School of Law and who have attained high scholastic standing and have given evidence of aptitude for the study of law.

One, yielding \$500.

Two, yielding \$300 each.

University of California Law School Association Scholarships. Open to students in the School of Law. The stipends vary in amount.

Wehe, Mr. and Mrs. Frank R., Scholarship. Open to men students in the School of Law.

One, yielding \$400.

Law (Hastings College of the Law, San Francisco)

Mhoon, John Bell, Scholarship in Law. Open to students in the Hastings College of the Law.

One, yielding \$800.

Olney, Warren, Jr., Memorial Scholarship. Open only to students in the Hastings College of the Law. Particular consideration will be given to the character as well as the need and scholastic ability of the recipient.

One, yielding \$225.

Wilson, Allen D., Memorial Scholarship. Open to needy students in the Hastings College of the Law who profess a belief in God and are of good moral character.

One, yielding \$300.

Librarianship

Children's Librarian Fellowship of the California Congress of Parents and Teachers. Open to graduate students in the field of librarianship who intend to specialize in work with children in public schools or public library systems of California.

One, yielding \$1,000.

Medicine

Base Hospital No. 30 Scholarship in Medicine. Open to students in medicine. The amount of this scholarship is the income on the balance of a fund collected for the University of California Medical School Hospital Unit No. 30.

One, yielding \$300.

Doychert, Ernestine, Scholarship in Medicine. Open to needy women students in the School of Medicine.

One, yielding \$200.

Ehrman, Florence Hellman, Scholarship in Medicine. Open to students in the School of Medicine.

One, yielding \$400.

Nelson, Charles Robert, Fellowships in Medicine. Open to needy students in the School of Medicine.

Three, yielding \$600 each.

Pardee, Governor, Scholarship in Medicine. Open to students in the School of Medicine.

One, yielding \$350.

Reinhardt, George Frederick, Memorial-Class of 1915 Scholarship in Medicine. Open to students in the field of medicine with the proviso that preference be given to sons or daughters of the members of the Class of 1915 who shall have graduated after four years' attendance at the University of California in Berkeley.

One, yielding \$500.

Sanborn, Sheffield, Scholarship. Open to needy students in the School of Medicine.

One, yielding \$300.

San Bruno Community House Scholarship. Open to deserving students of Jewish faith in the School of Medicine.

One, yielding \$800.

Spens-Black, Sally McKee, Fellowship in Medicine. Open to needy and deserving students in the School of Medicine.

One, yielding \$450.

Watson, Mary J., Scholarship in Medicine. Open to students in the University of California School of Medicine who wish to pursue study in homeopathy.

One, yielding \$150.

Wilson, Allen D., Memorial Scholarship. Open to needy students in the School of Medicine who profess a belief in God and are of good moral character.

One, yielding \$300.

Music

Hertz, Alfred, Memorial Scholarships. Open to graduate or undergraduate students who have manifested unusual talent in music and who show a bona fide intention to devote their lives to music. Applicants are expected to submit scores and recordings of their work. These fellowships will provide for study in the United States or elsewhere.

One, yielding \$3,600.

Four, yielding \$2,400 each.

Two, yielding \$1,400 each.

Ladd, George, Prix de Paris in Music. Open to graduate and undergraduate students at the University of California. Offered every two years as an award to some student of music at the University of California, of either sex, who shall have attained the highest excellence in his or her studies in harmony and composition for the given period of two years. Each applicant must submit examples of original composition. The type of composition submitted should, if possible, be in the sonata form. At least one complete movement in the sonata form should be prepared. The medium may be piano, organ, any ensemble group, or any larger instrumental group.

In order to provide for the full expression of musical feeling on the part of students whose work has not included the sonata, a series of six or more songs or solo or ensemble instrumental pieces may be submitted in place of the sonata. The appointee to the George Ladd Prix de Paris holds the appointment for two years and is directed to study in Paris, France, pursuing work particularly in harmony, composition, and orchestration.

One, yielding \$2,500 per year for two years.

Weil, Oscar, Memorial Scholarship. Open to graduate or undergraduate students in music.

One, yielding \$450.

Optometry

Schneider, George L., Memorial Scholarship. Open to graduate students of exceptional scholarship and potential ability as clinicians, who are candidates for an advanced degree in the field of optometry.

One, yielding \$250.

Paleontology

Alexander, Annie M., Museum of Vertebrate Paleontology Scholarship. Open to graduate students engaged in research either in the field or the Museum on subjects dealing with vertebrate paleontology.

One, yielding \$1,400.

Pharmaceutical Chemistry

Parke, Davis & Company Fellowship in Pharmaceutical Chemistry. Open to graduate students in pharmaceutical chemistry who wish to pursue studies leading to the Ph.D. degree. Preference will be given to applicants who have completed at least one year of graduate study.

One, yielding \$1800.

Philosophy

Howison Fellowship in Philosophy. Open to graduate students in philosophy who received honors in philosophy at graduation. Further conditions of eligibility for this fellowship are evidence of a thorough grounding in mathematics, physics, chemistry, and biology, and the ability to read freely Greek, Latin, German, and French. The fellowship is to be held by each appointee for three years, one or more of which may be spent at some other university.

One, yielding \$1,500 per year for three years.

Physics

International Business Machines Corporation Fellowship. Open to graduate students in physics.

One, yielding \$2,000.

Westinghouse Fellowship in Physics. Open to outstanding graduate students who are working toward the doctor's degree in physics.

One, yielding \$1,200.

Whiting Fellowship in Physics. Open to outstanding graduate students in physics who are working toward the doctor's degree.

One, yielding \$1,600.

Public Health

Public Health Fellowship in Biostatistics. Open to graduate students who wish to specialize in the application of statistics to problems in medicine and public health.

One, yielding \$3,000.

Public Health Fellowship for Studies in Maternal and Child Health. Open to students in the School of Public Health who are specializing in studies on maternal and child health.

One, yielding \$2,000.

Spanish

Spanish Scholarship. Open to senior or graduate students in the Department of Spanish who need financial assistance to carry on their studies.

One, yielding \$100.

Honorary Traveling Fellowships

Honorary traveling fellowships may be awarded to distinguished graduate students in any department. Such honorary traveling fellowships do not carry any stipend, but entitle the holder to official credentials from the University which may be of assistance in the pursuit of studies and special

inquiries in other states and in foreign lands. Applications should be in the hands of the Dean of the Graduate Division on the same date as applications for all other fellowships, that is, February 15.

LaVerne Noyes Scholarships

Scholarships covering the amount of the incidental fee for two semesters are available to veterans of World War I or their descendants. Application forms for these scholarships are available in the office of the Dean of Students, and should be filed before February 15.

EHRMAN STUDENTSHIP

The Ehrman Studentship, founded by Mr. and Mrs. Sidney M. Ehrman in memory of their son, Sidney Hellman Ehrman, is awarded by the Provost of King's College, Cambridge University, alternately to graduates of the University of California and graduates of Yale University. The studentship provides a stipend of £300 per year for study in King's College.

For further information concerning this studentship, please inquire at the Office of the Dean of the Graduate Division.

TEACHING ASSISTANTSHIPS

In many departments, Teaching Assistantships will probably be available to graduate students of distinguished scholarship, the income of which will be \$1,500 per year. Appointees are primarily graduate students preparing for higher degrees, and secondarily apprentices under training for future teaching service. *Application blanks and information on these appointments may be secured from the chairman of the department in which the student wishes to teach.*

RESEARCH ASSISTANTSHIPS

Many Research Assistantships are available in the various departments, institutes, and bureaus at the University for properly qualified students. The stipends vary somewhat, depending upon the type of research and the amount of time devoted to it. Students interested in appointments to Research Assistantships should apply to the department, institute, or bureau concerned.

LOANS

Graduate students who find themselves short of funds may obtain small loans from the loan funds of the University. Usually repayment is made in monthly installments, in the year following. Students who have not been in residence for at least one semester are not accorded such loans. Full information about loans is available in the Office of the Dean of Students.

PRIZES

A circular announcing prizes to be offered for the current academic year may be obtained by application at the Office of the Registrar. The student should also consult the University bulletin boards.

SERVICES*

EMPLOYMENT

MANY STUDENTS who plan to attend the University expect to earn part or all of their expenses. The following statements are made, not to discourage the able student who must work, but to forearm him with facts and information so that he may plan carefully and intelligently, and by so doing overcome many of the difficulties that might otherwise lead to disappointment and failure.

A student in good health can, with reasonable diligence, carry an average program of studies and give a maximum of twelve to eighteen hours a week to outside employment. The student who must be entirely self-supporting should plan to carry a limited academic program since the majority of part-time positions require from twenty to twenty-four hours of work a week and transportation time.

A student who is largely self-supporting must consider at the outset the possibility of taking more than the minimum number of semesters required to obtain a degree, if he is to maintain his scholastic standing and his health, and to enjoy the advantages of University life. The student who is not physically strong or in good health should not attempt to be wholly self-supporting. In most cases programs must be arranged before referrals for employment can be given. Men who have a limited amount of time available or difficult class schedules can often supplement their incomes by doing gardening and housework. There are many opportunities for men students to work in exchange for board, a type of employment which requires less rigid academic scheduling.

Women students can usually be placed in private homes to work eighteen hours a week in exchange for room, board, carfare, and \$10 a month. A limited number of such positions offer room and board and carfare only, in exchange for fifteen hours of work a week. Although experienced waitresses and expert stenographers have less difficulty than the unskilled women students in securing permanent part-time positions, there is usually not a sufficient demand even for these workers at the time of registration to take care of all who apply.

Bureau of Occupations

The Bureau of Occupations assists students in finding part-time employment, and graduates (other than teachers) in obtaining full-time employment. There is no charge for this service. Since a personal interview with a member of the staff is necessary, arrangements for employment through the Bureau of Occupations cannot be made by correspondence. The office of the Bureau of Occupations is located in South Hall Annex.

Bureau of School and College Placement

Through its offices of Teacher Placement, the Bureau of School and College Placement recommends graduates, students, and former students for positions in universities and colleges, junior colleges, high schools and elementary schools, and for educational research, thereby assisting qualified candidates to obtain permanent employment or promotion in the work for which they have

* Some graduate students may be interested in exploring the facilities of the University Counseling Center (Building T-5, located just north of the Campanile). Among its many services, the Center provides aptitude and psychological testing, and maintains an extensive library of current occupational information.

prepared themselves. Offices of Teacher Placement are maintained on the Berkeley, Los Angeles, and Santa Barbara campuses. A deposit of \$5 is required for clerical service. Communications should be addressed to the Manager of the Bureau of School and College Placement, Room 207, Administration Building, University of California, Berkeley 4.

The University reserves the right to refuse to extend its cooperation to candidates who apply for positions for which they are manifestly unfit. In every recommendation the aim is to keep in mind the best available persons, remembering candidates already employed as well as those who may be out of employment.

Candidates for positions are urged to inform the office which has recommended them of the result of their candidacy, and of their desires for future promotion or change of occupation.

STUDENT HEALTH SERVICE

The purpose of the Student Health Service is to conserve the time of students for their classwork and studies, by preventing and treating acute illnesses. Every new student, and every student returning to the University after an absence, must present at the time of the medical examination by the University Medical Examiner, a certificate establishing the fact that he has been successfully vaccinated against smallpox within seven years. A form for this purpose will be furnished by the University. Vaccination should be completed prior to registration.

Each graduate student registered at Berkeley on payment of the *incidental fee of \$42* may, at need, have such consultations and medical care on the campus as the Ernest V. Cowell Memorial Hospital is staffed and equipped to provide from the time of payment of his registration fee to the last day of the current semester. Surgical treatment is also included in the services offered when, in the opinion of the University Physician, this service is necessary and within the limitations herein outlined. During the semester, hospital care for a period up to thirty days may be given in the event of serious illness, on the recommendation of the University Physician.

If illnesses are of a nature requiring long-continued care so that the student may not be returned to classes during the current semester, or if at the end of the semester the patient is still ill, he will be released to his home or community at the discretion of the University Physician. Additional charges will be made for unusual appliances or remedies not ordinarily available or for hospitalization in excess of thirty days.

The Health Service does not take responsibility for certain chronic physical defects or illnesses present at the time of a student's entrance into the University (for example, hernias, chronic bone and joint diseases or deformities, chronic gastro-intestinal disorders, fibroids of the uterus, chronically infected tonsils, tuberculosis, syphilis, malignant diseases, allergic and endocrine disorders, etc.).

Dental service for diagnosis and emergencies (such as fractures) is provided. A limited amount of general dentistry is available and will be charged for in accordance with a schedule of rates approved by the President of the University.

Services similar to those described above are also provided by the Student Health Services on the Davis and San Francisco campuses.

Visiting scholars or others not regularly registered in the University and not paying the incidental fee of \$42 are not eligible for privileges accorded by the Student Health Services.

RECREATION

The Hearst Gymnasium for Women and the Gymnasium for Men, with their swimming pools, courts, fields, and equipment for games and sports, offer to students opportunities for exercise and recreation with or without instruction.

LIVING ACCOMMODATIONS

Information about all types of living accommodations may be obtained from the Housing Office, Building Q. A card file of listings is maintained in the Housing Office, consisting mainly of rooms in private homes, and some apartments and houses. The prices for these accommodations vary according to size, distance from the campus, and privileges offered, such as use of kitchen, laundry, etc. It is necessary to make arrangements in person with the householders; therefore, students coming to Berkeley are advised to make reservations in a hotel for a few days until they can select suitable accommodations.

The cost of room and board, three meals a day, in boarding houses in or near Berkeley is, for men, between \$700 and \$840 per academic year, and for women, between \$670 and \$1,075 per academic year. In houses offering room only, the cost is \$144 to \$270 per academic year for men, and \$240 to \$310 for women. In coöperative houses, which require 5 hours of work per week in addition to cash payment, the costs for room and board, three meals per day, for men are \$404 to \$424 per academic year, and for women are \$400 to \$450 per academic year. Lists of University-approved boarding and rooming houses may be obtained at the Housing Office, but these houses are primarily for undergraduate students.

International House is a residential and social center for American and foreign students. The residence facilities for men and for women are separate, the social halls and dining rooms being used in common. All applications and requests for information should be addressed to the Admissions Office of International House, University of California, Berkeley 4.

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مکتب خانہ
جامعہ عثمانیہ
 ۱۔ آرکائیو میں ملنے والی تمام کتابوں کا تفصیلی فہرستہ
 ۲۔ جامعہ عثمانیہ کے تمام کتب خانوں کی فہرستیں
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