

**UNIVERSITY OF CALIFORNIA
BULLETIN**

**GENERAL
CATALOGUE**

1940-41



DEPARTMENTS AT LOS ANGELES

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UNIVERSITY OF CALIFORNIA

GENERAL CATALOGUE

ADMISSION AND DEGREE REQUIREMENTS

ANNOUNCEMENT OF GRADUATE AND
UNDERGRADUATE COURSES OF INSTRUCTION

For the Academic Year

1940-41

Primarily for Students in the
DEPARTMENTS AT LOS ANGELES

405 HILGARD AVE. • LOS ANGELES, CALIFORNIA

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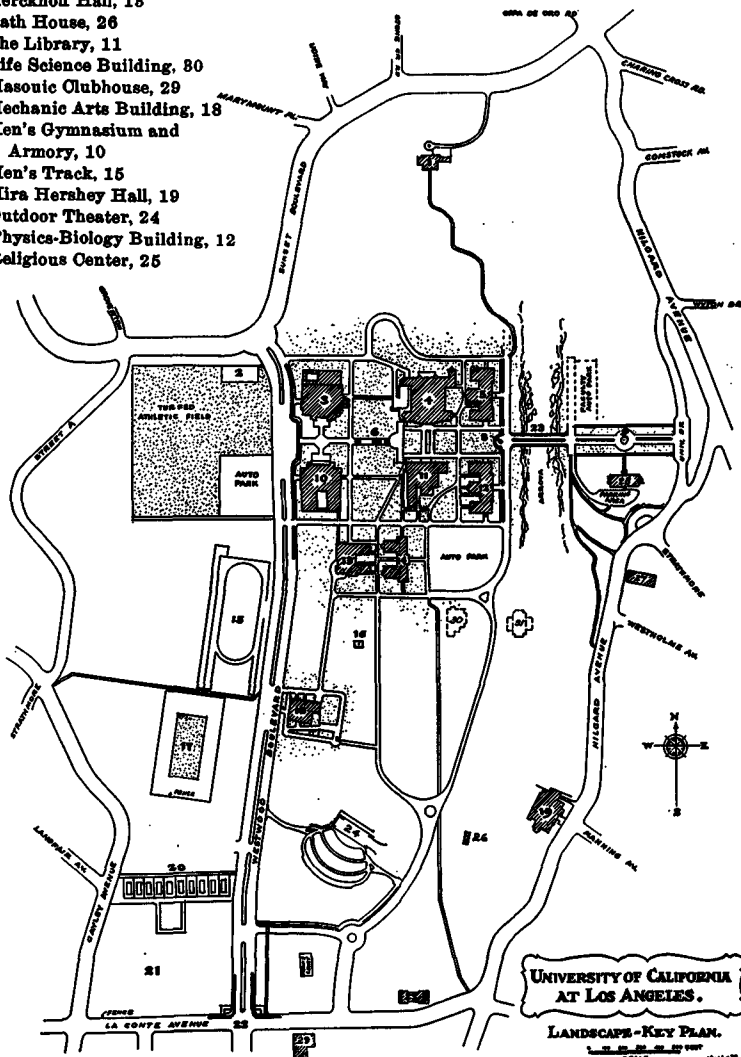
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CALENDAR*

1940

Sept. 8, Tuesday	Applications for admission to undergraduate or graduate study in September, 1940, with complete credentials, should be filed on or before this date to avoid penalty of late application fee.
Sept. 9, Monday	Admission Day: an academic and administrative holiday in all departments.
Sept. 10, Tuesday	} Consultation with advisers by new students.
Sept. 12, Thursday	
Sept. 11, Wednesday	9:00 A.M., Examination in Subject A.
Sept. 13, Friday	Registration of old students and reentrants (graduates and undergraduates):
	8:00 A.M.—9:30 A.M.—I—R.
	9:30 A.M.—11:00 A.M.—S—Z.
	12:00 M.—1:30 P.M.—A—E.
	1:30 P.M.—3:00 P.M.—F—K.
Sept. 14, Saturday	8:00 P.M.—4:00 P.M.—All initials.
	Registration of new students (graduates and undergraduates):
	8:00 A.M.—9:30 A.M.—A—L.
	9:30 A.M.—11:00 A.M.—M—Z.
	11:00 A.M.—1:00 P.M.—All initials.
Sept. 16, Monday	Registration of any student, old or new:
Sept. 19, Thursday	11:00 A.M.—1:00 P.M.
Sept. 21, Saturday	Instruction begins.
Sept. 30, Monday	Last day to file registration books or to change study lists without fee.
Oct. 4, Friday	9:00 A.M., Special examination in Subject A.
Oct. 25, Friday	Last day to file application for admission to candidacy for the master's degree or for the secondary teaching credentials in February, 1941.
Nov. 8, Friday	Last day to add courses to study lists.
Nov. 11, Monday	Last day to drop courses from study lists without penalty of grade F (failure).
Nov. 15, Friday	End of mid-term period.
Nov. 21, Thursday	Armistice Day: an academic and administrative holiday in all departments (morning only).
Nov. 23, Saturday	Last day to file without fee, notice of candidacy for the bachelor's degree to be conferred in January, 1941.
Dec. 7, Saturday	Christmas recess begins.
Dec. 14, Saturday	Thanksgiving recess (tentative).

1941

Jan. 6, Monday	Classes begin after Christmas recess.
Jan. 18, Saturday	} Final examinations, first semester.
Jan. 29, Wednesday	
Jan. 29, Wednesday	Last day of first semester.
Jan. 31, Friday	Applications for admission to undergraduate or graduate study in February, 1941, with complete credentials, should be filed on or before this date to avoid penalty of late application fee.
Feb. 7, Friday	9:00 A.M., Examination in Subject A.
Feb. 7, Friday	} Consultation with advisers by new students.
Feb. 8, Saturday	

* For the calendar of the departments at Berkeley (which differs from the one given here) application should be made to the Registrar, University of California, Berkeley. Registration for the first semester at Berkeley will begin August 22, 1940; for the second semester, January 16, 1941.

Feb. 10, Monday	{ Registration of old students and reentrants (graduates and undergraduates): 7:45 A.M.—9:30 A.M.—A—E. 9:30 A.M.—11:15 A.M.—F—K. 12:00 M.—1:45 P.M.—L—R. 1:45 P.M.—3:30 P.M.—S—Z. 3:30 P.M.—4:00 P.M.—All initials.
Feb. 11, Tuesday	{ Registration of new students (graduates and undergraduates): 9:00 A.M.—1:00 P.M.—All initials. Registration of any student, old or new: 10:30 A.M.—1:00 P.M.
Feb. 12, Wednesday	Instruction begins.
Feb. 15, Saturday	Last day to file applications for California Alumni Association Scholarships.
Feb. 15, Saturday	9:00 A.M., Special examination in Subject A.
Feb. 17, Monday	Last day to file registration books or to change study lists without fee.
Feb. 18, Tuesday	Last day to file applications for fellowships and graduate scholarships for the academic year 1941-42, tenable at Los Angeles.
Feb. 22, Saturday	Washington's Birthday: an academic and administrative holiday in all departments.
Feb. 24, Monday	Last day to file application for admission to candidacy for the master's degree or for the secondary teaching credentials in June or in August, 1941.
Feb. 28, Friday	Last day to add courses to study lists.
Mar. 21, Friday	Last day to drop courses from study lists without penalty of grade F (failure).
Mar. 29, Saturday	Last day to file applications for undergraduate scholarships for the academic year, 1941-42.
Apr. 2, Wednesday	End of mid-term period.
Apr. 10, Thursday	{ Spring recess.
Apr. 13, Sunday	
Apr. 19, Saturday	Last day to file without fee, applications for supervised teaching.
Apr. 28, Monday	Last day to file without fee, notice of candidacy for the bachelor's degree to be conferred in June, 1941.
May 12, Monday	Last day for filing in final form with the committee in charge, theses for the master's degree to be conferred in June, 1941.
May 12, Monday	Last day to file notice of candidacy for the bachelor's degree to be conferred in June, 1941.
May 28, Wednesday	{ Final examinations, second semester.
June 7, Saturday	
May 30, Friday	Memorial Day: an academic and administrative holiday in all departments.
June 14, Saturday	Twenty-second Annual Commencement at Los Angeles.
June 30—Aug. 8	Summer Session at Los Angeles.
Sept. 12, Friday	{ Registration of students for fall semester, 1941.
Sept. 13, Saturday	

THE REGENTS OF THE UNIVERSITY

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Litt.D.**
President of the University
219 California Hall, Berkeley
208 Administration bldg, Los Angeles

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cisco

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THE UNIVERSITY OF CALIFORNIA

NOTE: General information about instruction at Berkeley and Davis may be obtained by addressing the Registrar, University of California, Berkeley; for information about instruction at Los Angeles, address the Registrar, University of California, Los Angeles; information concerning the schools and colleges in San Francisco may be obtained by addressing the deans in charge. University publications available to inquirer are listed on the cover pages of this bulletin.

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* In residence second semester only, 1940-41.

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* Died July 25, 1940.

† Graduate instruction only.

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Grounds and Buildings, Berkeley

THE UNIVERSITY OF CALIFORNIA

FOUNDED 1868

THE UNIVERSITY OF CALIFORNIA is composed of academic colleges, professional schools, divisions, departments of instruction, museums, libraries, research institutes, bureaus, and foundations, and the University of California Press, situated on seven different campuses throughout the State, namely: Berkeley, Los Angeles, San Francisco, Davis, Riverside, Mount Hamilton, and La Jolla. A list of the divisions on each campus follows:

I. AT BERKELEY

The Colleges of

Letters and Science,

Agriculture (including the Department of Agriculture, the Agricultural Experiment Station, the Agricultural Extension Service, and the Giannini Foundation of Agricultural Economics),

Chemistry,

Commerce,

Engineering (including the Surveying Camp at Fairfax),

Mining,

Pharmacy (first year of the B.S. curriculum).

The Schools of

Architecture,

Education,

Jurisprudence,

Librarianship,

Medicine (first year).

The University Extension Division (offering instruction wherever classes can be formed, or anywhere in California by correspondence, and providing lectures, recitals, moving pictures and other material for visual instruction).

The California Museum of Vertebrate Zoölogy.

The Museum of Paleontology.

The Anthropological Museum.

The Institute of Child Welfare.

The Institute of Experimental Biology.

The Bureau of International Relations.

The Bureau of Public Administration.

The William H. Crocker Radiation Laboratory.

The University of California Press.

II. AT LOS ANGELES**University of California at Los Angeles:**

The College of Letters and Science,

The College of Business Administration,

The College of Applied Arts,

The College of Agriculture, including courses of instruction and the Agricultural Experiment Station's activities at Los Angeles,

The Lower Division in Engineering and Mining,

The School of Education,

The Summer School of Surveying,

The Bureau of Governmental Research,

The Senator William Andrews Clark Memorial Library.

The Los Angeles Medical Department. Graduate instruction only.

III. AT SAN FRANCISCO

The Medical School (second, third, fourth, and fifth years, including the University Hospital).

The School of Nursing.

The George Williams Hooper Foundation (for Medical Research).

The College of Dentistry.

The College of Pharmacy.

The California School of Fine Arts.

The Hastings College of the Law.

IV. AT DAVIS

The College of Agriculture, including the University Farm and certain divisions of the Department of Agriculture and the Agricultural Experiment Station.

V. AT RIVERSIDE

The College of Agriculture, including the Citrus Experiment Station.

VI. AT MOUNT HAMILTON

The Lick Astronomical Department (Lick Observatory).

VII. AT LA JOLLA

The Scripps Institution of Oceanography.

ELSEWHERE

In addition to the principal divisions named above, the University maintains the W. K. Kellogg Institute of Animal Husbandry at Pomona and several field stations of the Agricultural Experiment Station in various parts of the State.

HISTORY AND ORGANIZATION

The establishment of the University of California in 1868 came as the result of three separate movements—one originating in private initiative, one in State action, and one in Federal action.

Private action owed its inception to the foresight of the Reverend Henry Durant, who in 1853 opened in Oakland the Contra Costa Academy, under the auspices of the Presbytery of San Francisco and of the Congregational Association of Oakland. The name was soon changed to College School, in order to signify that the undertaking was only preparatory to a projected college. In 1855 the institution was incorporated under the name of College of California and was formally opened in 1860. Classes were graduated from 1864 to 1869, inclusive. In 1856 the College obtained a tract of land five miles to the north of Oakland and ten years later the name of Berkeley was given to the townsite about the new college campus.

State action had its start in the Constitutional Convention of 1849, which incorporated into the fundamental law recognition of and provision for a State University. There was constant public agitation down to 1868 for making the provisions effective.

Federal action began in 1853 when Congress gave the State 46,000 acres of land for a "seminary of learning." In 1862 the Morrill Act provided an additional grant of public lands for the establishment of an Agricultural, Mining, and Mechanical Arts College.

These three forces began working together to one end—the establishment of a University of California. The College of California contributed its buildings and four blocks of land in Oakland and its 160 acres of land in Berkeley; the Federal Government, the congressional gift of 150,000 acres of public lands; and the State, its property accumulated for the purpose, together with new legislative appropriations. The legislative act creating the University of California was signed by Governor Henry H. Haight on March 23, 1868, and the new institution opened its doors for instruction in September, 1869.

The first President was Henry Durant (1869–72). He was followed by Daniel Coit Gilman (1872–75), John LeConte (1875–81), William T. Reid (1881–85), Edward S. Holden (1885–88), Horace Davis (1888–90), Martin Kellogg (1890–99), Benjamin Ide Wheeler (1899–1919), David Prescott Barrows (1919–23), William Wallace Campbell (1923–30), Robert Gordon Sproul (1930–).

The University of California, under the terms of the Constitution of the State, is a public trust, charged with the function of providing education of collegiate grade. Through aid from the State and Federal governments, and by private gifts, it provides instruction in literature and the arts, in the sciences, and in the professions of architecture, engineering, teaching, law, medicine, dentistry, nursing, and pharmacy. Instruction in all of the colleges of the University is open to all qualified persons, without distinction of sex.

ADMINISTRATION

The administration of the University of California is entrusted, under the State Constitution, to a corporation styled THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, consisting of 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 as members *ex officio*, and sixteen other regents appointed by the Governor. This corporation has "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 also vested with the legal title and the management and disposition of the property of the University and the property held for its benefit, and has the power to take and hold, either by purchase, or by donation or by 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, Vice-Presidents, Deans, Directors, the Registrars (at Berkeley and Los Angeles), the University Librarians (at Berkeley and Los Angeles), and all professors and instructors giving instruction in any curriculum under the control of the Academic Senate. Instructors of less than two years' service are not entitled to vote.

The Academic Senate is divided into two sections: The Northern Section includes members of the Senate whose duties lie primarily in Berkeley, San Francisco, or Davis, or at Mt. Hamilton; the Southern Section 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, determines the conditions for admission, for certificates, and for degrees. It authorizes and supervises all courses of instruction in the academic and professional colleges and schools. It recommends to the Regents all candidates for degrees and has general supervision of the discipline of students.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

HISTORY AND DEVELOPMENT

IN MARCH, 1881, the legislature of California created the Los Angeles State Normal School. Five acres of ground were donated at the corner of Fifth Street and Grand Avenue—the present site of the Los Angeles City Library. Instruction was begun in August, 1882, with a faculty of three teachers and an enrollment of sixty-one students.

Following a legislative appropriation in 1911, a new site of twenty-five acres on North Vermont Avenue was obtained for the Normal School. In the fall of 1913 the cornerstone was laid for the first building, Millspaugh Hall, named to commemorate Jesse F. Millspaugh, who was president during the period 1904–1917. The School was moved into its new quarters in September, 1914, where it existed until the summer of 1919.

Through legislative action made effective by the Governor's signature on July 24, 1919, the grounds, buildings, and records of the Los Angeles State Normal School were transferred to the Regents of the University of California. In September of that year, university instruction was begun under the name Southern Branch of the University of California. The educational facilities were expanded to include the freshman and sophomore years in Letters and Science beginning with September, 1919; the third and fourth years with September, 1923 and 1924, respectively. The degree of Bachelor of Arts was conferred in the College of Letters and Science for the first time in June, 1925. In 1922 the teacher training courses were organized as a Teachers College. The degree of Bachelor of Education was conferred for the first time in June, 1923. On February 1, 1927, the name of the institution was changed to UNIVERSITY OF CALIFORNIA AT LOS ANGELES.

The University is now engaged in building a new physical plant upon a campus of three hundred eighty-four acres which was bought and presented to the University by the cities of Santa Monica, Venice, Beverly Hills, and Los Angeles. The removal to the new site from North Vermont Avenue took place in August, 1929, and instruction in all departments was begun in the new buildings on September 23, 1929.

By action of the Regents work in the College of Agriculture was established at Los Angeles in November, 1930. The College of Business Administration was established in June, 1935, with instruction beginning in September, 1936; the College of Applied Arts and the School of Education were established July 1, 1939.

On August 8, 1933, graduate study at the University of California at Los Angeles leading to the degrees of Master of Arts and Master of Science, and to the Certificate of Completion for the general secondary and junior college teaching credentials, was authorized by the Regents. Accordingly, in Septem-

ber, 1933, one hundred and fifty candidates were admitted to work in the following fields: botany, economics, education, English, geography, geology, history, mathematics, philosophy, physics, political science, psychology, and zoölogy; the first master's degrees were conferred in June, 1934. To the fields first made available there have been added agriculture (subtropical horticulture), applied physics, business administration, chemistry, French, German, home economics, Latin, microbiology, music, physical education, and Spanish. Beginning in September, 1936, candidates for the Ph.D. degree were accepted in the fields of English, history, mathematics, and political science; to these have been added chemistry, geology, horticultural science, philosophy, physical-biological science, physics, psychology, Romance philology, and zoölogy; the first doctorate was conferred in 1938. It is expected that other fields will be available in subsequent years, as circumstances warrant.

SITE OF THE CAMPUS—CLIMATE

The Los Angeles campus of the University of California is situated on the lower south slope of the Santa Monica Mountains which overlook Hollywood and the western part of Los Angeles; the Pacific Ocean, visible from the grounds, is five miles distant in a direct line. The warmest month of the year is August, with a mean temperature of about 68°; the coolest is January with a mean temperature of 49°; the annual rainfall is about 18 inches, mostly between December and March. Proximity to the ocean insures an even temperature without extremes; the daily range of variation is about fifteen degrees.

The University campus is within the corporate limits of the city of Los Angeles, west of Beverly Hills. It extends along the south side of Sunset Boulevard from Hilgard Avenue to Veteran Avenue, and is bounded on the south by LeConte and Gayley avenues; automobiles should turn south from Sunset Boulevard at Hilgard Avenue, or north from Wilshire Boulevard at Westwood Boulevard.

The campus may be reached by bus as follows: From *Los Angeles* business district (Fifth and Hill Streets), Los Angeles Motor Coach line, via Wilshire Boulevard, and Pacific Electric Co. Castellammare bus line, via Sunset Boulevard. From *Los Angeles*, western terminus of Pico car line, Bay Cities Transit Co. bus, via Pico and Westwood boulevards. From *Hollywood* (North Vermont Avenue and Hollywood Boulevard), Pacific Electric Co. bus, via Hollywood and Sunset boulevards. From *Santa Monica*, Pacific Electric Co. bus, via Wilshire Boulevard, and Bay Cities Transit Co. bus, via Santa Monica Boulevard.

Students coming to Los Angeles by rail may ordinarily obtain tickets and check baggage to West Los Angeles without additional cost if done at the time when the railroad ticket is purchased. The cost of carfare and baggage transfer from Los Angeles is thereby considerably reduced.

SURVEY OF CURRICULA

Instruction at the University of California at Los Angeles is offered in (a) the College of Letters and Science, with curricula leading to the degree of Bachelor of Arts, curricula of the earlier years of the College of Dentistry, of the Medical School, and of the College of Chemistry; (b) the College of Business Administration, with curricula leading to the degree of Bachelor of Science; (c) the College of Applied Arts, with curricula leading to the degrees of Bachelor of Arts and Bachelor of Science, curricula of the earlier years of the College of Engineering, of the College of Mining, and of the College of Pharmacy, and a curriculum leading to the Certificate in Public Health Nursing; and (d) the College of Agriculture, with curricula leading to the degree of Bachelor of Science. Students electing certain curricula in the College of Agriculture may register at Los Angeles for the first two years and then transfer to Berkeley or Davis to complete the requirements for the degree. The School of Education at Los Angeles supervises curricula leading to the Certificates of Completion for the various elementary and secondary teaching credentials, and for the administrative credential. Graduate study, leading to the degrees of Master of Science and Master of Arts, and to the degree of Doctor of Philosophy also is available at the University of California at Los Angeles.

SUMMER SESSIONS

During the summer the University conducts at Los Angeles one session of six weeks. The courses of instruction are of university level, and credit toward university degrees may be given to persons attending who comply with such conditions of work and examinations as may be imposed by the instructors in charge. The tuition fee for the session is \$35, irrespective of the number of courses taken.

The University does not attempt, in general, to make inquiry concerning the educational qualifications of applicants for admission to the Summer Session who are twenty-one years of age, 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 session. Admission will be granted to persons under twenty-one years of age who are graduates of high schools or other approved secondary schools.

AN ANNOUNCEMENT OF THE SUMMER SESSION is issued in March of each year, and may be obtained by addressing the Dean of the Summer Session, University of California, 405 Hilgard Avenue, Los Angeles, California.

Summer Sessions are also conducted by the University at Berkeley, and at Davis. An Intersession of six weeks immediately precedes the Summer Session at Berkeley.

THE LIBRARY

The Library has more than 340,000 volumes that are accessioned and approximately 5100 periodicals and continuations are regularly received.

The Library is open daily. From Monday to Friday, inclusive, the hours during regular sessions are from 7:45 A.M. to 10 P.M.; Saturday, from 7:45 A.M. to 5 P.M.; Sunday, from 2 P.M. to 5 P.M. The reading rooms accommodate about 1700 students.

Supplementing the general library is the William Andrews Clark Memorial Library of about 22,000 volumes featuring primarily English literature and history of the United States Northwest.

UNIVERSITY EXTENSION

The Extension Division offers facilities to men and women who seek some form of higher education, but are prevented from taking up residence at the University. The University of California, therefore, provides, through the Extension Division, educational opportunities to adults living in any part of the State.

The work is carried on in five ways:

(1) Class Instruction. Classes are organized in cities and towns wherever a sufficient number of people can be secured who wish to study a subject. Instruction is offered in art, business methods, economics, education, engineering, geography, history, languages, law, literature, mathematics, political science, psychology, public speaking, science, etc.

(2) Correspondence Instruction. Courses are given by mail in art, astronomy, composition and literature, drawing, economics, education, engineering, history, the languages, mathematics, music, philosophy, physics, political science, psychology, etc. Courses may begin at any time.

(3) Lectures, singly or in series, are provided for any committee, club, organization, or community in the State that will make the necessary arrangements for their delivery.

(4) Labor Education offers educational facilities designed to serve the needs of industrial workers.

(5) Visual Instruction. The Extension Division circulates visual aids such as motion picture reels, which cover many phases of educational work.

Persons desiring to take advantage of the facilities offered by any one of these departments may receive detailed information on request. Address the Extension Division, University of California, Berkeley, or 815 South Hill Street, Los Angeles, or Room 130 Administration Building, University of California, Los Angeles.

ADMISSION TO THE UNIVERSITY

STUDENT STATUS

THE STUDENTS who are admitted to the University of California at Los Angeles fall into two groups: undergraduates, and graduate students.

The undergraduates fall again into two groups: the regular students, and the special students.

The regular students are persons who have met all the requirement for admission to the University and who are pursuing, within the University, programs of study that comply with the established rules and regulations and lead, usually after four years' study, to the degrees of A.B. or B.S.

The special students are those persons twenty-one years of age or over who have not had the opportunity to fulfill the requirements laid down for the admission of regular students. Each student in this group is admitted only after special consideration. A special student cannot be a candidate for a degree. A special student may, however, at any time attain the status of regular student by satisfying all the requirements for that status in the college that he desires to enter.

Graduate students are of two designations: those in regular graduate status, and those in unclassified graduate status. Regular graduate students are graduates of this University or of other institutions with equivalent requirements for graduation, who are carrying on advanced (graduate) work for higher degrees or teaching credentials. Unclassified graduates are those who have received a recognized degree and who wish to undertake work leading to another bachelor's degree, or to complete preparation necessary for acceptance in regular graduate status; students so designated may take undergraduate courses only. Detailed information concerning admission to each student status follows.

ADMISSION IN UNDERGRADUATE STATUS

An applicant who wishes to enter the University must fulfill the general requirements for admission, as set forth below. Application blanks may be obtained from the Director of Admissions, 121 Administration Building, University of California, Los Angeles. Every applicant for admission is required to pay an application fee of \$3 when the first application is filed. Remittance by bank draft or money order should be made payable to the Regents of the University of California.

Admission in Freshman Standing

Admission by Certificate—

A graduate of an accredited high school may enter the University of California in freshman standing provided the following conditions have been satisfied:

1. *Graduation.* Graduation from an accredited high school usually requires the completion of sixteen matriculation units or credits in selected subjects.

2. *Subject requirements.* The high school program must include the following subjects, (a) to (f), inclusive, which represent the minimum subject requirements, and which must be approved by the high school principal as college preparatory courses.*

- (a) History 1 unit.—This may consist of any two semesters of history, civics, or social science.
- (b) English 3 units.—These may consist of any six semesters in English, public speaking, journalism, or drama.
- (c) Mathematics 2 units.—These must consist of two semesters of elementary or advanced algebra, and two semesters of plane geometry, or solid geometry and trigonometry.
- (d) Science 1 unit.—This may consist of a year course in one field of science, namely, biology, botany, chemistry, physical science, physics, physiology, or zoology. The science selected must be an advanced (3d or 4th year) laboratory science, and the two semesters must be in the same subject field.
- (e) Foreign language 2 units.—These must be in one language.
- (f) Advanced (3d or 4th year) mathematics, or foreign language, or chemistry, or physics—1 unit; or two years of a second language..... 2 units.

3. *Scholarship requirement.* For any of these required subjects completed in the ninth grade (first year of high school), *subject credit* is given irrespective of the scholarship grade received, provided, of course, it is a passing grade. In the subjects completed in the *last three years* of the high school program, however, a scholarship *average* of grade B (based on a marking system of four passing grades: A, B, C, D) must have been maintained. In computing scholarship averages *semester grades* rather than year grades are used. For example, a semester grade A in either half of one prescribed course may be used with a semester grade C in either half of any other prescribed course to obtain a B average. Required subjects taken in the last three years of high school in which a grade D has been received will not be counted either in reckoning the required scholarship average or in satisfaction of the subject requirements.

A grade earned by repeating a course may not be counted as higher than C even though a higher grade may be reported. Credits reported in this way will be accepted, however, in fulfillment of specific subject requirements. For example, an applicant who earned grade D, E, or F in plane geometry in either semester may repeat the work of that semester with the expectation that if he attains grade C or higher upon repetition he will be regarded as having fulfilled the specific subject requirement in plane geometry. This rule does not apply to grades earned in this manner prior to March, 1931.

* While this minimum program will entitle the student to entrance to the University, it will not give him the right to enter unconditionally the curriculum of his choice unless he has credit for the prescribed subjects. Information regarding the preparation required and recommended for each curriculum may be found in the later pages of this catalogue.

Subject A: English Composition. An examination in English composition, designed to test the applicant's ability to write English without gross errors in spelling, grammar, diction, sentence structure, and punctuation, is required of all undergraduate entrants. The examination is given at the opening of each semester and at the opening of the Summer Session. Students who do not pass in the examination are required to take the Course in Subject A without unit credit toward graduation.

ADDITIONAL WAYS OF GAINING ADMISSION

The above-enumerated subjects have been selected as a central core of academic subjects for university preparation because it has been demonstrated that the student who completes them satisfactorily is most likely to be successful in his university work. In keeping, however, with the University's policy that no worthy student shall be denied admission, the Board of Admissions has been authorized to make certain exceptions to the general rules governing entrance for an applicant who may have subject shortages but a *superior* scholarship record. Every such applicant, upon submitting his official transcript of record, is given special consideration by the Director of Admissions. In general, an applicant with superior scholarship but with subject shortages may qualify for entrance to the University of California as follows:

(1) If he ranks in the upper tenth of his class and has a substantial academic preparation, although he may have subject deficiencies.

(2) If he has not less than 15 high school units of grade A or B in work taken in the ninth, tenth, eleventh, and twelfth years, or not less than 12 high school units of grade A or B in the work of the tenth, eleventh, and twelfth years; and not more than two subject deficiencies in the required list (a) to (f).

(3) If he has not less than 15 high school units with no grade lower than C in work taken in the ninth, tenth, eleventh, and twelfth years, or not less than 12 high school units with no grade lower than C in work taken in the tenth, eleventh, and twelfth years; and not less than 6 high school units of grade A or B selected from the following 10 units of academic subjects:

Third- and fourth-year English

Third- and fourth-year mathematics

Third- and fourth-year laboratory science

Third- and fourth-year foreign language

Third- and fourth-year history.

(4) If he has not less than 15 high school units with no grade lower than C in work taken in the ninth, tenth, eleventh, and twelfth years, or not less than 12 high school units with no grade lower than C in work taken in the tenth, eleventh, and twelfth years; and passes the *Examination in Subject A*; and has grade A or B in the following subjects:

Plane geometry, 1 unit

Second-year foreign language, 1 unit

Third- or fourth-year laboratory science, 1 unit

Requirement (f), 1 unit.

Admission by Examination—

An applicant for admission whose schoolwork in California or elsewhere does not entitle him to admission under the conditions outlined above, may be admitted by passing examinations of the College Entrance Examination Board. The number and selection of examinations that each applicant must take is determined by the Director of Admissions.

The College Entrance Board examinations are held in a period beginning on the second Saturday in June (in 1941, June 14–21, inclusive) at the following places in California: Berkeley, Los Angeles, San Rafael, Stanford University, Santa Barbara, Carpinteria, La Jolla, Ojai, Avalon, and Claremont. A circular with information concerning the examinations and the necessary application form may be obtained directly from the College Entrance Examination Board, 431 West 117th Street, New York City. Applications and the required \$10 fee should reach the Board on or before May 18, 1941.

Removal of Admission Deficiencies

Deficiencies in the subject or scholarship requirements for admission in freshman standing by certificate may be removed in any one of eight ways, as follows:

(1) By courses in the University of California Extension Division which offers work of high school level, and college courses (class or correspondence) which may be taken to remove entrance deficiencies. Work taken in the Extension Division must be performed by achieving a standard satisfactory to the Board of Admissions, and the program of studies of the student must be approved by the Director of Admissions or by one of his associates, Berkeley or Los Angeles.

(2) By courses in the University of California Summer Sessions (Berkeley and Los Angeles), and the Intersession (Berkeley). Elementary college courses and a limited number of courses of high school level are offered. Advice about the selection of these courses should be obtained from the Director of Admissions or from one of his associates, Berkeley or Los Angeles.

(3) By courses in the College of Agriculture of the University of California, at Davis (for applicants for admission to the College of Agriculture). Entrance deficiencies may be removed by an appropriate program made up of nondegree or degree courses, or by a program combining both types of work. Advice about this work should be sought from the Recorder, College of Agriculture, Davis, or from the Director of Admissions, University of California, Berkeley or Los Angeles.

(4) By courses in other four-year colleges completed with satisfactory grades, subject to the approval of the Director of Admissions. The requirements for admission in advanced standing must also be satisfied (see pages 30–31).

(5) By courses in junior colleges or State colleges completed with satisfactory grades and in proper amount. In addition, all requirements for admission to the University in advanced standing must be satisfied. The high school record of an applicant for admission with advanced standing from another collegiate institution will be considered on the same basis as the high school record of a student applying for admission to freshman standing in the University, provided his college record is satisfactory. Students who make up deficiencies in this way must continue in junior college or State college long enough to make up entrance deficiencies and, in addition, complete at least 15 units with a C plus average (1.5), or remain until completing 60 units with a C average (1.0). Students who completed the requirements in any one of the ways described on pages 27-28 will qualify for admission, provided they have at least a C average in all college work presented for advanced standing.

(6) By junior college noncertificate courses representing work of nonuniversity level taken after high school graduation. The scholarship standards for these courses are the same as those required for work taken in the high school. Work that is clearly repetition may be offered to make up a subject, but not a scholarship deficiency, such work being awarded not higher than a C grade; other work must be completed with A or B grades in order to make up scholarship deficiencies. Students following this plan must continue in junior college long enough to make up entrance deficiencies and, in addition, complete at least 15 units with a C plus average (1.5), or remain until completing 60 units with a C average (1.0).

(7) By postgraduate courses in accredited high schools.

(8) By College Entrance Board examinations (see page 28).

Information Primarily for High School Principals and Faculty Advisers

Accrediting of schools in California. An accredited high school is one that has been officially recognized by the University as fulfilling the regulations laid down by the Regents of the University for the accrediting of secondary schools in California. The list of accredited schools is published by the University annually in the month of June or July. For blank forms of application for accrediting and for other information, school principals may communicate with the Director of Relations with Schools, Berkeley or Los Angeles.

Responsibility of high school authorities. The responsibility for the granting of certificates to high school students lies with the high school authorities, and students naturally will be guided by their respective principals in making their preparation for entrance to the University.

Upon the high school authorities rests also the responsibility for determining the scope and content of courses preparatory to admission to the University and for certifying the course to the University under the proper subject designation of the high school program.

Preparation for University Curricula

In addition to the subjects required for admission to the University, as outlined on pages 26-27, certain preparatory subjects are recommended for each University curriculum which, if included in the high school program, will give the student a more adequate background for his chosen field of study.

Attention is directed especially to the fact that physics and chemistry are recommended in the preparation for the various curricula in the College of Letters and Science. This recommendation is made not only because of the value of each or both of these subjects as preparation for the courses of a particular curriculum, but also because completion of these subjects in the high school may meet a part of the requirements for the junior certificate in the College (see pages 62-65) and thereby give the student greater opportunity in his freshman and sophomore years at the University to choose elective subjects. However, it should be understood that neither chemistry nor physics is required for admission to the University.

Especial care should be exercised by the high school student in selecting a foreign language. The study of a foreign language is important not only because of its value in a broad cultural preparation but also because a reading knowledge of foreign languages may be very useful in the pursuit of advanced work in many departments of the University. For department requirements and recommendations see the departmental announcements, pages 112 ff.

The high school student who plans to enter the University of California, but who at the outset of his high school course is uncertain concerning which of the several University curricula he may wish to follow, should provide himself with a wide range of opportunities by completing in high school a program of studies somewhat as follows: history, 1 unit; English, 3 units; elementary algebra, 1 unit; plane geometry, 1 unit; algebraic theory, $\frac{1}{2}$ unit; trigonometry, $\frac{1}{2}$ unit; solid geometry, $\frac{1}{2}$ unit; chemistry, 1 unit; physics, 1 unit; foreign language, 4 units; freehand drawing, $\frac{1}{2}$ unit; and geometrical drawing, 1 unit; total, 15 units. Otherwise he may find graduation delayed, due to lack of proper matriculation prerequisites in required courses in the various colleges.

The student is cautioned with respect to the choice of electives that vocational or activities courses in the high school are not regarded as acceptable substitutes for basic academic studies in the preparation for University curricula. Unless this caution is observed, the student, even though he has been admitted to the University, may find that he is not equipped to do all the work necessary for the bachelor's degree in the normal four-year period.

Admission in Advanced Standing

An applicant for admission in advanced standing must present evidence that he has satisfied the subject and scholarship requirements prescribed for the admission of high school graduates in freshman standing, as described on

page 25 (see also under Additional Ways of Gaining Admission, page 27), and that his advanced work in institutions of college standing has met the scholarship standard required of transferring students; namely an average of grade C or higher in all work of college level undertaken.

An applicant may not disregard his college record and apply for entrance in freshman standing; he is subject without exception to the regulations governing admission in advanced standing. Complete official transcripts of record from preparatory schools and colleges attended, together with a statement of honorable dismissal from the latter, must be submitted to the Director of Admissions on behalf of every applicant for admission in advanced standing.

An applicant from a junior college or State college in California, who upon graduation from high school did not qualify for admission in freshman standing, must submit evidence that he has made up all entrance deficiencies and, in addition, has completed:

(a) Not less than 60 semester units of work acceptable for advanced standing in the college of the University to which admission is sought, with a scholarship average of at least grade C, or

(b) Not less than 15 semester units of acceptable advanced work with a distinctly high scholarship average.

The student should note that credit toward a degree in the University of California for an extension course or courses completed in another institution will be allowed only upon the satisfactory passing at this University of an examination in the course or courses so offered, unless the other institution maintains a classification of extension courses similar to that established by the University of California.

Transfer to the University of California at Los Angeles in February. It is of special importance that a student in another institution who desires to transfer to the University of California at Los Angeles after the stated registration day of the second semester should communicate in advance with the Office of Admissions, and should await assurance that late admission will be permitted before discontinuing studies in progress elsewhere. The applicant should state specifically the college in the University to which he wishes admission, and the amount of advanced credit which he expects to offer at the time of transfer.

Subject A: English Composition. Credit for Subject A (English Composition) is given upon certificate to those students who enter the University with credentials showing the completion elsewhere of the required training in composition. Of all other students, an examination by this University, at Los Angeles or at other centers of instruction, is required (see further statement, page 38).

Surplus matriculation credit. There is no provision for advanced standing in the University on the basis of surplus high school credit.

Teaching experience. No University credit is given for teaching experience. Students presenting evidence of successful teaching experience may substitute approved courses in education for part or all of the regular requirements in Supervised Teaching upon the recommendation of the Director of the Training Department.

Removal of Scholarship Deficiencies by Applicants from Other Colleges

Applicants otherwise eligible who seek to transfer from other institutions of collegiate rank but whose college records fail to show a satisfactory scholarship average may be admitted only when the deficiency has been removed by additional work completed with grades sufficiently high to offset the shortage in grade points. This may be accomplished by work in (1) the Intersession or Summer Sessions, (2) the Extension Division of the University, or (3) other approved higher institutions.

ADMISSION OF SPECIAL STUDENTS

Special students are students of mature years who have not had the opportunity to complete a satisfactory high school program, but who, by reason of special attainments, may be prepared to undertake certain courses in the University. The conditions for the admission of each applicant under this classification are assigned by the Director of Admissions. Ordinarily, a personal interview is required before final action can be taken. In general, special students are required to confine their attention to some special study and its related branches.

Transcripts of record from all schools attended beyond the eighth grade must be submitted. An applicant for special status may be required to take an aptitude test and the Examination in Subject A. The Director of Admissions will supply, upon request, the forms of application for admission and for transcripts of high school record.

No person under the age of 21 years will be admitted as a special student, but the mere attainment of any given age is not in itself a qualification for admission.

An applicant will not be admitted directly from high school to the status of special student. Graduates of high schools are expected to qualify for admission in accordance with the usual rules; students so admitted, if not candidates for degrees, may, with the approval of the proper study-list officer, pursue elective or limited programs.

The University has no "special courses"; all courses are organized for regular students—that is, for students who have had the equivalent of a good high school education and have been fully matriculated. A special student may be admitted to those regular courses for which, in the judgment of the instructor, he has satisfactory preparation. *A special student will seldom be able to undertake the work of the engineering and professional colleges or schools until he has completed the prerequisite subjects.*

A special student may at any time attain the status of regular student by satisfying all the matriculation requirements for admission to the University.

Instruction is not offered in such essential preparatory subjects as elementary English, United States history, elementary physics, nor, except in the Summer Session or in the Extension Division, in elementary algebra, plane geometry, or elementary chemistry.

Students more than 24 years of age at the time of admission are excused from military science and physical education.

ADMISSION FROM SCHOOLS AND COLLEGES IN FOREIGN COUNTRIES

The credentials of an applicant for admission from a foreign country, either in undergraduate or graduate standing, are evaluated in accordance with the general regulations governing admission. An application and official certificates and detailed transcripts of record should be submitted to the Director of Admissions several months in advance of the opening of the semester in which the applicant hopes to gain admittance. This will allow time for exchange of necessary correspondence relative to entrance and, if the applicant is admitted, be of assistance to him in obtaining the necessary passport visa.

An applicant from a foreign country whose education has been conducted in a language other than English may be admitted only after demonstrating that his command of English is sufficient to permit him to profit by instruction in this University. An applicant's knowledge of English is tested by an oral and written examination. This regulation applies to both graduate and undergraduate foreign students. The admission of an applicant who fails to pass this examination will be deferred until such time as he has acquired the required proficiency in the use of English.

Language credit for a foreign student. College credit for the mother tongue of a foreigner and for its literature is given only for courses taken in native institutions of college level, or for upper division or graduate courses actually taken in the University of California, or in another English-speaking institution of approved standing.

ADMISSION IN GRADUATE STANDING

As indicated on page 25 graduate students may be admitted as regular graduates or as unclassified graduates.

Applications for admission to regular graduate status will be received from graduates of recognized colleges and universities who propose to work for the degrees of Master of Arts or Master of Science, or for the degree of Doctor of Philosophy in the fields of chemistry, English, geology, history, horticultural science, mathematics, oceanography, philosophy, physical-biological science, physics, political science, psychology, Romance philology, and zoölogy, or for the certificates of completion leading to the general secondary or junior college teaching credentials. Completed applications with supporting documents

should be in the hands of the Registrar not later than September 3, 1940, for the semester beginning September, 1940, and not later than January 31, 1941, for the semester beginning February, 1941. Failure to observe these dates will necessitate the payment of a late application fee of \$2.

The basis of admission to regular graduate status is the promise of success in the work to be undertaken, evidenced largely by the previous college record. In general a minimum undergraduate scholarship equivalent to a 1.5 grade-point average (half way between grades C and B) at the University of California at Los Angeles is prescribed. Notification of acceptance or rejection is sent to each applicant as soon as possible after the receipt of his application. *Applicants are warned not to make definite arrangements for attending the University on the assumption that they will be accepted for admission, until they have received notification of acceptance.*

Unclassified graduate status is open to students holding degrees from recognized institutions; no limitation is placed upon the number of students in this status. An unclassified graduate student is in general admitted to any undergraduate course for which he has the prerequisites; he may not enroll in any graduate course, nor is any assurance implied of later admission to regular graduate status. In the event of such admission the grade-point requirements for degrees and credentials will apply to all work done in unclassified graduate status; degree credit may be allowed for such work upon the special recommendation of the department of the candidate's field of study.

Applications to either status are to be made upon the forms provided for the purpose by the Registrar, and must be accompanied by the application fee (see below); transcripts of previous work must be submitted in accordance with the instructions on the application form.

An application fee of \$3 is required of every student applying for admission to graduate status, even though he may have been in previous attendance at the University in other than graduate status.

GENERAL REGULATIONS

CERTAIN GENERAL REGULATIONS govern residence and study in the academic departments. These regulations, unless otherwise stated, concern both graduate and undergraduate students.

REGISTRATION

Each student registers in person in the University of California at Los Angeles on days appointed for this purpose, at the beginning of each semester. Registration covers the following steps: (1) filling out address card, paying fees, and receiving in exchange a card showing that the applicant has been enrolled in the University; (2) enrolling in courses according to instructions which will be posted on the University bulletin boards.

Late Admission and Registration

The student or prospective student should consult the University calendar and acquaint himself with the dates upon which students are expected to register and begin their work at the opening of the sessions. Failure to register upon the stated registration days is certain to cause difficulty in the making of a satisfactory program and to retard the progress both of the student himself and of each class to which he may be admitted.

A student who registers after the opening of the session and who later is found to be deficient in his work may not plead late admission as an excuse for his deficiency.

A fee of \$2 is charged for late registration; this fee applies both to old and new students.

A qualified student or applicant who fails to register upon the stated registration days at the opening of the session, but who, nevertheless, appears *during the first two weeks of instruction*, will in general be permitted to register. After the first week, however, he is required to obtain the written approval of all the instructors in charge of his proposed courses and of the dean of his college, before his registration can be completed. An applicant for admission *after the first two weeks of instruction* must receive the special approval of the Director of Admissions and the dean of the college to which he seeks admission. His study list must also be approved by the dean and the instructors concerned.

MEDICAL EXAMINATIONS

Each applicant must also appear before the University Physicians and pass a medical examination, to the end that the health of the University community as well as that of the individual may be safeguarded. Evidence, satisfactory to the University Physicians, of successful immunization against smallpox is required.

A medical examination is required of every student each year; returning students are requested to make appointments with the University Physicians at the time of registration.

Medical Facilities

The University of California at Los Angeles provides medical service on the campus for the care of emergencies, with physicians and trained nurses in charge. There are no facilities for hospital care. Students are entitled to medical consultation and advice; every entering student receives a medical examination; thereafter an examination is required each year.

MILITARY SCIENCE, NAVAL SCIENCE, AND PHYSICAL EDUCATION

Upon admission, every undergraduate student, man or woman, must, unless officially notified of exemption, report immediately to the proper officer for enrollment in physical education,* in accordance with the directions in the *Registration Circular* or the announcements which may be posted on the bulletin boards. Every able-bodied male undergraduate who is under twenty-four years of age at the time of admission and who is a citizen of the United States, unless officially notified of exemption, must report immediately for enrollment in military or naval science. The student must list the courses in military or naval science and physical education upon his study card with other University courses. Upon petition a student more than twenty-four years of age at the time of admission will be excused from military science and physical education.

Information concerning the requirements in military science and physical education, including a statement of the grounds upon which a student may be excused from this work, may be obtained from the Registrar.

Petitions from students for excuse from, or deferment of, military science or physical education, filed by the petitioner after the expiration of two weeks following the date of the student's registration, will not be received except for illness or physical disability occurring after such date. A student who petitions to be excused from one of these subjects should nevertheless present himself to the proper instructors for enrollment while action on his petition is pending.

If a student subject to these requirements lists the prescribed course or courses on his study list, and thereafter without authority fails to appear for work in such course or courses, his neglect will be reported, after a reasonable time, to the Registrar, who, with the approval of the President, will notify the student that he is dismissed from the University. The Registrar will then inform the dean of the student's college or other officer in charge of the student's

* The University requirements in physical education referred to in this section cover Physical Education 3 (men) and 4 (women), 1 unit courses which are required of students in each semester of the first and second years.

program of his dismissal. Upon the recommendation of the professor in charge of the work and with the approval of the President, the Registrar is authorized to reinstate the student and will notify the dean of the student's college (or other officer in charge of the student's study list) of such reinstatement.

The student is referred to the announcements of the departments of Military Science and Tactics and Physical Education in this Catalogue.

Naval Science and Tactics

Enrollment in the Naval Reserve Officers' Training Corps Unit may not, at any one time, exceed two hundred members, and students who wish to enroll should make formal application at the time of their admission to the University. Applications must be approved by the Chairman of the Department of Naval Science and Tactics. Students thus accepted are relieved of the work otherwise prescribed in military science, as set forth in these pages, and are required to give to studies prescribed by the Department at least three hours a week during the first two years of the course, and five hours a week throughout the last two years.

In the lower division, the requirement in naval science amounts to 10 units, 6 units in naval science and 4 units in navigation. The work in naval science is taken at the rate of $1\frac{1}{2}$ units a semester. In addition, two courses in navigation of two units each are prescribed. The particular semester in which these courses are to be taken will be determined for each student as his general University program may require. In the upper division the requirement in naval science is 12 units and 4 units in navigation.

The courses taken in any semester in satisfaction of these requirements must be regularly listed, with other University courses, on the student's study list for that semester. Neglect of the requirements is punishable by dismissal from the University.

For further information about the work of the Naval Unit, consult the Chairman of the Department of Naval Science and Tactics, Men's Gymnasium.

Gymnasiums and Athletic Facilities

Separate gymnasiums for men and women were completed in the summer of 1932; each has an open air swimming pool. The building for men is 200 by 260 feet and has a gymnasium floor 100 by 150 feet; one wing of the building houses the headquarters of the departments of military science and tactics and of naval science and tactics. The building for women is of equal size and contains two gymnasium floors, of which the larger is 72 by 100 feet. These buildings are conveniently situated near the athletic grounds and tennis courts.

Lockers

Lockers are issued, as long as they are available, to registered students who have purchased standard locks. These are sold at \$1 each, and may be used as long as desired, or may be transferred by the purchaser to another student.

SUBJECT A: ENGLISH COMPOSITION

With the exceptions noted below, every undergraduate entrant must, at the time of his first registration in the University, take an examination, known as the *Examination in Subject A*, designed to test his ability to write English without gross errors in spelling, grammar, diction, sentence structure, or punctuation.

The examination in Subject A is given at the opening of each semester and at the opening of the Summer Session. (See the *Registration Circular*, to be obtained from the Registrar.) A second examination for late entrants is given two weeks after the first examination in each semester; for this examination a fee of \$1 is charged.

The results of the first examination will be made known not later than the day preceding the date set for the filing of study lists for the current semester. Papers submitted in the examination are rated as either "passed" or "not passed." A student who is not present at the examination in Subject A which he is required to take, will be treated as one who has failed.

Every student who does not pass in the examination in Subject A must, immediately after his failure, enroll in a course of instruction, three hours weekly, for one semester, known as the *Course in Subject A*, without unit credit toward graduation. Should any student fail in the course in Subject A he will be required to repeat the course in the next succeeding semester of his residence in the University.

A student who maintains in the course in Subject A a grade of A is permitted, on recommendation of the Committee on Subject A, to withdraw from the course at a date determined by that committee, and is given credit for Subject A.

Every student who is required to take the course in Subject A is charged a fee of \$10, and the charge will be repeated each time he takes the course. This fee must be paid before the study list is filed.

No student will be granted the bachelor's degree until he has satisfied the requirement of Subject A.

In respect to grading, conditions, and failure, the course in Subject A is governed by the same rules as other University courses.

A student who has received a satisfactory rating in the College Entrance Examination Board examination in English 1, in English 1-2, or in the Comprehensive Examination in English, will receive credit for Subject A. A student who has passed an examination in Subject A given by the University at Berkeley or given under the jurisdiction of the University at various centers in the State annually in May or June, will receive credit for Subject A.

A student who, at any time, has failed in the University examination in Subject A does not have the privilege of taking a second examination until he has completed the course in Subject A.

American Institutions; Piano Test; Study-List Regulations 39

A student who enters the University of California at Los Angeles with credentials showing the completion elsewhere with a grade not lower than C, of one or more college courses in English composition (with or without unit credit) is exempt from the requirement in Subject A.

Passing the Examination in English for Foreign Students does not exempt a student from the Subject A requirement.

AMERICAN INSTITUTIONS

Every candidate for a bachelor's degree or a teaching credential is required to present evidence of knowledge concerning the Constitution of the United States and American institutions and ideals. This requirement is called the "Requirement of American Institutions." Candidates may complete this requirement in any one of the following ways:

1. By completing any one of the following courses:
American Institutions 101 (see page 242).
History 171A-171B, or 171B-171C, or 172A-172B.
Political Science 3A.
2. By presenting credit for an acceptable course completed at another collegiate institution.*
3. By passing the examination in American Institutions which is offered each semester under the direction of the Academic Senate Committee on American Institutions. No fee is required for this examination, nor is degree credit granted for it. Detailed instructions, with dates of examinations, are posted upon the official bulletin boards at the proper time, or may be had at the information desk of the Registrar's Office.

PIANO TEST

Every student entering a curriculum leading to the Certificate of Completion for the Kindergarten-Primary Teaching Credential must show ability to play on the piano music suitable for use with young children. Application for the test may be made to the departmental adviser. The test should be taken at the time of admission; it must be taken before the student may be assigned to practice teaching. See the ANNOUNCEMENT OF THE SCHOOL OF EDUCATION, LOS ANGELES.

STUDY-LIST REGULATIONS

At the beginning of each semester every student is required to file with the Registrar, upon a date to be fixed by the Registrar, a registration book containing in addition to other forms, a detailed study list bearing the approval of a faculty adviser or other specified authority. Such approval is required for all students: undergraduate, graduate, and special.

* Candidates for general teaching credentials must have met this requirement at an approved California teacher training institution.

The presentation of a study list by a student and its acceptance by the college is evidence of an obligation on the part of the student to perform faithfully the designated work to the best of his ability. Withdrawal from, or neglect of, any course entered on the study list, or a change in program without the formal permission of the dean of the college, makes the student liable to enforced withdrawal from the University, or to other appropriate disciplinary action.

Ample provision is made for the student who desires to withdraw from courses in which he is regularly enrolled. Petition for change in study list should be presented to the Registrar. Attendance upon all exercises is obligatory pending receipt of formal permission to discontinue.

STUDENT RESPONSIBILITY

Each student is responsible for compliance with the regulations printed in this Catalogue and with official notices published in the *Daily Bruin*, or posted on official bulletin boards.

Application for leave to be absent, or excuse for having been absent from a University exercise, should be made to the instructor; if for unavoidable cause the student absents himself from all college exercises for one day or several days he should present his excuse to the dean of his college. Excuse to be absent does not relieve the student from completing all the work of each course to the satisfaction of the instructor in charge. For regulations concerning withdrawals from the University, see page 47 of this Catalogue.

It is the duty of the student to inform the Registrar of changes of address.

AUTHORITY OF INSTRUCTORS

No student will be permitted to enter upon the study of any subject if, in the opinion of the instructor, he lacks the necessary preparation to insure competent work in the subject.

Every student is required to attend all his class exercises and to satisfy the instructor in each of his courses of study, in such ways as the instructor may determine, that he is performing the work of the courses in a systematic manner.

Any instructor, with the approval of the President, may at any time exclude from his course any student guilty of unbecoming conduct toward the instructor or any member of the class, or any student who, in his judgment, has neglected the work of the course. A student thus excluded will be recorded as having failed in the course of study from which he is excluded, unless the faculty otherwise determines.

DEGREES AND TEACHING CREDENTIALS

Detailed statements of requirements for bachelor's degrees issued by the University will be found in this Catalogue under headings of the several colleges and departments; for the master's degree and the doctor's degree, the ANNOUNCEMENT OF THE GRADUATE DIVISION, SOUTHERN SECTION. The requirements for certificates of completion leading to teaching credentials are to be found in the ANNOUNCEMENT OF THE SCHOOL OF EDUCATION, LOS ANGELES.

Every undergraduate candidate for a degree or for the completion of a regular University curriculum leading to a teaching credential should fill out a form in his registration book, indicating his candidacy. The Registrar will then consult with the appropriate dean, and will advise the student whether the program he is undertaking will satisfy the requirements of his curriculum.

Senior residence. Every candidate for the bachelor's degree is required to have been enrolled throughout the senior or final year of residence in that college of the University in which the degree is to be taken; the last 24 units must be done in residence while so enrolled. It is permissible to offer a total of twelve weeks of intersessions, summer sessions, or postsessions as equivalent to one semester; but, except as noted below,* the student must complete in resident instruction either the fall or spring semester of his senior year. The regulation applies both to students entering this University from another institution and to students transferring from one college to another within the University.

All graduates of any one calendar year—January 1 to December 31—are considered as belonging to the "class" of that year.

CHANGE OF COLLEGE OR MAJOR

A student may be transferred from one college (major or department) of the University to another upon the approval of the dean or other responsible officer or committee of the college (or department) to which admission is sought. A form of petition for transfer is supplied by the Registrar.

No student is permitted to transfer from one major department to another after the opening of the last semester of his senior year.

HONORS

Honors students include those who receive honorable mention with the Junior Certificate in the College of Letters and Science, in the College of Applied Arts, in the College of Business Administration, or upon attaining junior standing in the College of Agriculture. Honors are granted also with the bachelor's degrees. For regulations concerning honors see the sections explanatory of the curricula of the various colleges, in later pages of this Catalogue.

* Until September 15, 1943, students who have received teaching credentials from the Los Angeles State Normal School, the Southern Branch of the University of California, or the University of California at Los Angeles may complete the requirement of senior residence for the degree of Bachelor of Education by attendance at summer sessions of the University of California.

CREDIT AND SCHOLARSHIP

In both the University and the high school the student is credited, in respect to amount of work accomplished, in terms of units; and in respect to quality of scholarship, in terms of grades. In a further, more exact determination of the student's scholarship, the University assigns a numerical value in points to each scholarship grade. These points are called grade points and are more fully described below.

High school credit, when it is offered in application for admission to the University, is reckoned in matriculation units; one matriculation unit represents one year's work in a given subject in the high school.

High school credit, when it is offered in satisfaction of high school graduation requirements, is measured in standard secondary units; that is, the credit granted for the study of a subject throughout the school year of from thirty-six to forty weeks, is stated in terms of the standard secondary unit. Each unit represents approximately one-quarter of a full year's work in high school; in other words, four standard secondary units represents one full year's work in high school.

Relation between high school matriculation units and University units. One year's work in the high school is considered to be equivalent to one University semester's work of college level; that is, a student who desires to make up any high school subject deficiency by offering work of college level can in one University semester earn credit equivalent to the credit of one year's work in high school.

In the University, a unit of credit represents one hour weekly of the student's time for the duration of one semester in lecture or recitation, with the time necessary for preparation, or a longer time in laboratory or other exercises for which outside preparation is not required. It is expected that most students will spend two hours in preparation for one hour a week of lecture or recitation. Each University unit credit is thus understood to represent at least three hours of the student's time, and the credit value of a course is reckoned in units on that basis.

STUDY-LIST LIMITS*

Concurrent enrollment in resident courses and in extension courses is permitted only when the entire program of the student has received the approval of the proper dean or study-list officer and has been registered with the Registrar before the work is undertaken.

A student on scholastic probation, or subject to supervision of the Committee on Reinstatement, is limited to a program of 12 units each semester, to which may be added the required $\frac{1}{2}$ -unit course in physical education.

* Certain courses which do not give units of credit toward the degree, nevertheless displace units from a student's allowable program, as follows:

Commerce B (Shorthand) by 2 units.

Course in Subject A by 2 units.

In the College of Letters and Science or in the College of Applied Arts a student may present a study list aggregating 12 to 16 units each semester without special permission. A student who has a heavy outside work program or who is not in good health is urged to plan, with the dean's approval, a study program below the 12-unit limit. After the first semester a student may on petition carry a program of not more than 18 units, if in the preceding semester he attained an average of at least two grade points for each unit of credit in his total program (of 12 units or more). Except in the first semester of the freshman year, a student in good academic standing, may without special permission add $\frac{1}{2}$ unit of physical education to the allowable study list. With this exception, all courses in military or naval science and physical education and repeated courses are to be counted in study-list totals. Any work undertaken in the University or elsewhere simultaneously with a view to credit toward a degree must also be included.

In the College of Business Administration, a student who is not restricted in his study list and who is not on probation may present a study list aggregating 12 to 18 units a semester without special permission with respect to quantity of work, save that in his first semester of residence the maximum is 16 units.

In the College of Agriculture a regular student who is free from deficiencies in the work of the previous semester, and who is in good academic standing may register for not more than 18 units. To this maximum may be added the required physical education course of $\frac{1}{2}$ unit.

Students enrolled in the lower division who are carrying work preparatory to admission to the junior year of the College of Engineering, or the College of Mining, or the Curriculum in Optometry, and who are free from deficiencies in the work of the previous semester, may register for not more than 18 units of new work. Students with deficiencies will be limited to 16 units, including repeated work. If students in these professional curricula later transfer to nonprofessional curricula in another college, their credits will be reduced in accordance with the limits of that college.

A special student ordinarily will have his study list specified at the time of his admission; it is limited to 16 units.

Regulations concerning study-list limits for graduate students will be found in the ANNOUNCEMENT OF THE GRADUATE DIVISION, SOUTHERN SECTION.

Program Limitation

Undergraduate programs must not carry more than three consecutive hours of lecture, recitation, or discussion on any one day, nor may they carry a total of more than five consecutive hours including laboratory, military or naval science, physical education, typing, or field work.

GRADES OF SCHOLARSHIP; GRADE POINTS

In the University, the result of the student's work in each course (graduate and undergraduate) is reported to the Registrar in one of six scholarship grades, four of which are passing, as follows: A, excellent; B, good; C, fair; D, barely passed; E, conditioned; F, failed. The designations "passed" and "not passed" may be used in reporting upon the results of certain courses taken by honor students in the College of Letters and Science.

Grade E (conditioned) indicates a record below passing, but one which may be raised to a passing grade without repetition of the course by passing a further examination or by performing other tasks required by the instructor. Grade F (failure) denotes a record so poor that it may be raised to a passing grade only by repeating the course.

The term "incomplete" is not used in reporting the work of students. The instructor is required, for every student, to assign a definite grade based upon the work actually accomplished, irrespective of the circumstances which may have contributed to the results achieved.

Course reports filed by instructors at the end of each semester are final, not provisional.

In all the colleges at Los Angeles, grade points are assigned to the respective scholarship grades as follows: for each unit of credit, the scholarship grade A is assigned 3 points; B, 2 points; C, 1 point; D, no points; E, minus 1 point; and F, minus 1 point. Removal of grade E or F entitles the student to as many grade points as may have been lost by the condition or failure, but no more. For exceptions sometimes permitted when grade E is assigned, see under Removal of Conditions and Failures, below.

In order to qualify for the bachelor's degree in the College of Letters and Science, the College of Agriculture, the College of Business Administration, or the College of Applied Arts,* the student must have obtained at least as many grade points as there are units in the total credit value of all courses undertaken by him in the University of California.† A similar regulation is in effect in the colleges on the Berkeley campus.

REMOVAL OF CONDITIONS AND FAILURES

For the removal of a condition a student may, on petition, have the privilege of either a reexamination with the class next repeating the subject or a special examination out of class; in courses of the Summer Session, however, reexaminations for the removal of deficiencies are not provided. For every such examination a formal permit, to be obtained in advance on petition filed with the Registrar, must be shown to the instructor in charge of the examination. For every course in which a special examination is undertaken for the removal of a

* Candidates for teaching credentials must also maintain a C average in supervised teaching.

† Courses taken by honor students of the College of Letters and Science without letter grades are not counted in determining the grade-point status.

condition, a fee of \$2 is charged; there is no fee for a reexamination consisting of the regular final examination taken with a class in the subject, provided the final examination is the only task required by the instructor for the removal of the condition. The fee for two or more special examinations undertaken to remove conditions during a single semester is \$3. A form of petition for a special examination or for admission to an examination with a class, together with instructions for procedure, may be obtained from the Registrar.

A condition in a course in which a final examination is regularly held may not be removed, unless the student has passed a satisfactory final examination in the course, either at the time when the course was originally taken, or at a later time, as above provided.

If a student has been conditioned in a course because of omitting certain parts of the required work, or because of unsatisfactory performance, the instructor may require the satisfactory completion of that work before the condition in the course is removed. Such tasks count as a special examination, subject to the fee prescribed for a special examination.

Removal of grade E (conditioned) by reexamination or otherwise entitles the student to receive *as many grade points as have been lost by the condition, but no more*. An exception to this rule is permitted, however, when the deficiency consists solely in the *omission* of the final examination or other required exercise, due to illness, or other circumstances over which the student has no control. In such circumstances the student may petition to have that grade assigned which he would have received had the work been completed without delay, together with the appropriate number of grade points. His petition must set forth in detail the reasons for his failure to complete the work; it should receive endorsement by the instructor that the work, as far as presented, was satisfactory. The Registrar will then refer the petition to the proper authority for decision.

If a student who has incurred a condition in any course fails to make up the condition by the end of the next semester of his residence in which the course is regularly given, then the condition becomes a failure and can be made up only by repeating the course.

Any student who is reported as having failed in any prescribed course in military or naval science or physical education, or the course in Subject A, will be required to repeat the course during his next regular semester of residence in which the course may be given.

A student who fails to attain grade D or a higher grade in any course following an examination for the removal of a condition will be recorded as having received grade F (failure) in the course.

MINIMUM SCHOLARSHIP REQUIREMENTS

The following regulations apply to all undergraduate students at Los Angeles:

(A) *Probation*. A student shall be placed on probation

(1) If at the close of his first semester his record shows a total deficiency of six or more grade points; or

(2) If at the close of any subsequent semester, his grade-point average is less than 1.0 (a "C" average), computed on the total of all courses undertaken in this University for which he has received a final report.

(B) *Dismissal*. A student shall be subject to dismissal from the University

(1) If his grade point average for the work undertaken during any semester falls below zero (a "D" average); or

(2) If while on probation his grade-point average for the work undertaken during any semester falls below 1.0 (a "C" average); or

(3) If after two semesters of probationary status he has not obtained a grade-point average of 1.0 (a "C" average), computed on the total of all courses undertaken in this University for which he has received a final report.

A student dismissed for unsatisfactory scholarship will be excluded from the University for an indefinite period, with the presumption that his connection with the University will be ended by such exclusion.

Students at Los Angeles coming under the above regulations are subject to the supervision of the Committee on Reinstatement, which has adopted a policy of limiting study lists of students under its charge to twelve units or less, exclusive of required physical education.

The action to be taken in respect to students in graduate status who acquire scholarship deficiencies is left to the discretion of the Dean of the Graduate Division, Southern Section.

CREDIT BY EXAMINATION

Provision is made whereby an undergraduate student in residence and in good standing may under certain conditions take examinations for degree credit either (a) in courses offered in the University, without formal enrollment in them, or (b) in subjects appropriate to the student's curriculum, but not offered as courses by the University. The results of all such examinations, with grades and grade points, are entered upon the student's record in the same manner as for regular courses of instruction (see Grades of Scholarship, above). No fees are required.

Arrangements must be made in advance with the dean of the student's college; his approval and that of the instructor who is appointed to give the examination, is necessary before an examination can be given.

Application for examination for advanced standing on the basis of work done before entrance to the University should be made to the Admissions Office at the time of entrance to the University. If a student who has already matriculated proposes to enter upon study outside the University of California with

a view to asking the University to examine him upon that work and to allow him credit toward the degree, he must make all arrangements *in advance* with the department concerned and with the Director of Admissions; fees are required for such validation examinations.

The application form for examinations may be obtained from the Registrar.

FINAL EXAMINATIONS

Final examinations are obligatory in all undergraduate courses except laboratory courses and other courses which, in the opinion of the Committee on Courses, because of resemblance to laboratory courses, require special treatment. In laboratory courses final examinations are held at the option of the department in charge. All examinations will, so far as practicable, be conducted in writing, and a maximum time will be assigned beforehand for each examination, which no student will be allowed to exceed. The time for examination sessions will not be more than three hours. Leave to be absent from a final examination must be sought by written petition to the proper faculty.

If a final examination is one of the regular requirements in a course, there can be no individual exemption from the examination, except as provided in the preceding paragraph.

Any department may examine a student, at the end of the semester immediately preceding his graduation, in the major subject in which the department has given instruction; and a student to be examined in a major subject may, at the discretion of the department, be excused from all final examinations in courses in the department of the major subject in which he has been enrolled during the semester. Credit value may be assigned to this general examination in the major subject.

Any student tardy at an examination may be debarred from taking it, unless an excuse for his tardiness, entirely satisfactory to the examiner, is presented.

Reexaminations are permitted only for the purpose of removing conditions (grade E). In courses of the Summer Session, however, reexaminations for the removal of deficiencies are not provided by the University. A student who has received grade B, C, D, or F in any course is not allowed a reexamination.

Concerning examinations for the removal of conditions see under Removal of Conditions and Failures, above.

LEAVE OF ABSENCE AND HONORABLE DISMISSAL

A *brief leave of absence*, to expire on a definite date, may be issued to a student in good standing who finds it necessary to withdraw for a short time, but who wishes to retain his status in his classes and to resume his work before the close of the current semester. No excuse for absence will relieve the student from the necessity of completing all the work of each course to the satisfaction of the instructor in charge. Petition forms for leaves of absence, with complete instructions, may be obtained at the office of the Registrar.

A student must apply for leave to be absent from or excuse for having been absent from any college exercise other than a final examination, to the instructor in charge of the exercise; unless, for unavoidable cause, the student is obliged to absent himself from all college exercises for several days, in which event he should apply for a brief leave of absence as directed above. Leave to be absent from a final examination must be sought by written petition to the proper faculty.

An *honorable dismissal* may, upon petition, be issued to any student in good standing provided he complies with the instructions on the form of petition, which may be obtained from the Registrar.

A student is in good standing if he is entitled to enjoy the normal privileges of a student in the status in which he is officially registered. Students dismissed by reason of scholarship deficiencies, and students under supervision or on probation, may receive letters of honorable dismissal which bear a notation concerning their scholarship; students under censure or suspension may not receive an honorable dismissal but may receive transcripts of record which bear a notation concerning such censure or suspension.

Discontinuance without notice. Students who discontinue their work without formal leave of absence do so at the risk of having their registration privileges curtailed or entirely withdrawn.

DISCIPLINE

When a student enters the University it is taken for granted by the University authorities that he has an earnest purpose and that his conduct will bear out this presumption. If, however, he should be guilty of unbecoming behavior or should neglect his academic duties, the University authorities will take such action as, in their opinion, the particular offense requires. Students who fail to make proper use of the opportunities freely given to them by the University must expect to have their privileges curtailed or withdrawn.

There are five degrees of discipline: *warning, censure, suspension, dismissal, and expulsion.* Censure indicates that the student is in danger of exclusion from the University. Suspension is exclusion from the University for a definite period. Dismissal is exclusion for an indefinite period, with the presumption that the student's connection with the University will be ended by it. Expulsion is the most severe academic penalty, and is final exclusion of the student from the University.

By authority of the Academic Senate, the President of the University is entrusted with the administration of student discipline with full power to act.

MISCELLANEOUS INFORMATION

EXPENSES—LIVING ACCOMMODATIONS—EMPLOYMENT— SCHOLARSHIPS—LOANS

GENERAL EXPENSES AND FEES*

THE QUESTION OF EXPENSE while attending the University is of importance to every student. It is difficult, however, to give specific information about yearly expenditures. In a student body of several thousand members there are so many different tastes, as well as such a wide range of financial resources, that each student must determine his budget in keeping with his own needs and financial condition. It is possible to live simply, and to participate moderately in the life of the student community, on a modest budget. The best help the University authorities can offer the student in planning his budget is to inform him of certain definite expense items, and acquaint him with others that he will in all probability have to provide for.

A table of estimated minimum, moderate, and liberal budgets for one college year of nine months is given on page 55.

Fees and deposits are payable preferably in cash. If a check is presented the face amount must not exceed all the fees to be paid.

Incidental fee. The incidental fee for all undergraduate students is \$29 a semester. This fee, which must be paid each semester on the date of registration, covers expenses of students other than the cost of their instruction and entitles them to the use of the libraries, gymnasiums, swimming pools, tennis courts, and all athletic equipment, showers, soap, towels, lockers, and wash-rooms; and to consultation, medical advice or dispensary treatment in the event of illness; and meets in part the expenses in connection with registration and graduation. It also includes the rights and privileges of membership in the Associated Students, valued at \$4; see page 60. No part of this fee is remitted to those students who may not desire to make use of any or all of these privileges. If a student withdraws from the University within the first four weeks from the date of his registration, a part of this fee will be refunded. The incidental fee for graduate students is \$25 each semester; it does not include membership in the Associated Students.

Students who are classified as nonresidents of the State are required to pay, each semester, in addition to the incidental fee, a tuition fee of \$75.† It is important for every prospective student to note carefully the rules governing legal residence in the University, which are stated on page 52.

* During registration and for the first few days of instruction, fees will be paid as part of the registration procedure. Thereafter, they will be paid in the office of the Comptroller, Administration Building. The cashier's department of this office is open from 8:30 A.M. to 3 P.M. daily, and from 8:30 A.M. to 12 M. on Saturday.

† If a student registers for less than 12 units the tuition fee is \$5 a unit or fraction of a unit, with a minimum of \$25.

Fee reduction for graduate students. Graduate students in full-time occupations, who under the rules of the University are not permitted to carry a program of studies in excess of 4 units, may be allowed a reduction of the incidental fee from \$25 to \$15. The term "full-time occupations" is interpreted as applying to those persons who are in regular salaried positions and whose duties require their attention for seven or eight hours a day.

Tuition. The University charges a tuition fee to every student who has not been a legal resident of the state of California for a period of one year immediately preceding the opening day of the semester during which he proposes to enroll. Such a student is classified as a nonresident. A student entering the University for the first time should read carefully the rules governing determination of residence, as quoted below, to the end that he may be prepared, in the event of classification as a nonresident of California, to pay the required tuition fee. This fee must be paid at the time of registration. *The attention of the prospective student who has not attained the age of 22 years and whose parents do not live in the state of California, is directed to the fact that presence in the state of California for a period of more than one year immediately preceding the opening day of the semester in which he proposes to attend the University, does not, of itself, entitle him to classification as a resident.* An alien who has not made, prior to the opening day of a semester in which he proposes to attend the University, a valid declaration of intention to become a citizen of the United States is classified as a nonresident student.

Tuition in the academic colleges is free to students who have been residents of the state of California for a period of one year immediately preceding the opening of the semester during which they propose to attend the University. Students who are classified as nonresidents are required to pay a tuition fee of \$75 each semester. This fee is in addition to the incidental fee. The tuition fee may be remitted in whole or in part for students in full graduate standing in other than professional schools and colleges.

If a student is in doubt about his residence status, he may communicate with the Attorney for the Regents in Residence Matters. On the day preceding the opening day of registration and during the first week of instruction of each semester the Attorney may be consulted upon the campus at a place which may be ascertained by inquiry at the Information Desk in the Registrar's Office; throughout the registration period, he may be consulted during the hours of registration at the place where registration is being conducted. At other times he may be consulted or communications may be addressed to him at Room 901, Crocker Building, San Francisco, California.

The eligibility of a student to register as a resident of California may be determined only by the Attorney for the Regents in Residence Matters. Every entering student, and every student returning to the University after an absence, is required to make a "Statement as to Residence" on the day of registration, upon a form which will be provided for that purpose, and his status

with respect to residence will be determined by the Attorney soon after registration. Old students are advised that application for reclassification as a resident student must be filed within ten days after regular registration; by late registrants, within one week after registration. Application for a change of classification with respect to some preceding semester will not be received under any circumstances.

Laboratory fees. Laboratory charges, apportioned on the basis of materials used and for certain costs involved in the maintenance and operation of laboratory equipment, differ with the individual student's course, the range of fees in the elementary laboratories being from \$1.50 to \$30 a semester. The fees are stated in the descriptions of the several courses in later pages of this Catalogue.

Other Fees

Late payment fee. For delayed payment of any of the incidental, nonresident tuition, or departmental fees or deposits, \$1. Departmental fees and deposits must be paid by date set for filing registration book.

Application fee, \$3. This fee is charged every applicant for admission to the University, and is payable at the time the first application is filed. Applicants for graduate status must pay this fee, even though it may have been paid once in undergraduate status; see page 34.

Medical examination: original appointment, or deferment arranged in advance, no fee; fee for a second appointment, \$1.

Late application for admission, \$2.

Late registration, \$2. (After date set as registration day.)

Late filing of registration book, \$1. (More than five days after registration.)

Late examination in Subject A, \$1.

For courses added or dropped after date set for filing registration book, \$1 for each petition.

For reinstatement of lapsed status, \$5.

For duplicate registration card, \$1.

For late application for teaching assignment, \$1.

For late notice of candidacy for the bachelor's degree, \$2.

*For late return of athletic supplies,** \$1 minimum.

For failure to empty locker within specified time, \$1.

Returned check collection, \$1.

Deposit required of applicants for teaching positions who register with the Appointment Secretary: Persons registering with the Appointment Secretary are required to make a deposit of \$5 to cover the clerical cost of correspondence and copying of credentials.

* Supplies or equipment not returned before the close of the fiscal year must be paid for in full; return after that date is not permitted.

Refunds

Refund of a part of the incidental fee is made to a student who withdraws from the University within four weeks from the date of his registration.

Refund on the nonresident fee of \$75 is made in accordance with a schedule on file in the offices of the Registrar and Cashier; dates are computed from the first day of instruction of the semester.

No claim for refund of fees will be considered unless such claim is presented during the fiscal year to which the claim is applicable. No student will be entitled to a refund except upon surrender to the Comptroller of his registration certificate and receipt. Students should preserve their receipts.

Rules Governing Residence

The term "nonresident student" is construed to mean any person who has not been a bona fide resident of the state of California for more than one year immediately preceding the opening day of a semester during which he proposes to attend the University.

The residence of each student is determined in accordance with the rules for determining residence prescribed by the provisions of Section 52 of the Political Code of California, provided, however:

1. That every alien student who has not made a valid declaration of intention to become a citizen of the United States, as provided by the laws thereof, prior to the opening day of the semester during which he proposes to attend the University, is deemed to be a nonresident student.

2. That no person is deemed to have made a valid declaration of intention to become a citizen of the United States whose declaration of intention at the time when it is presented in support of an application for classification as a resident student in the University has lost its force or effectiveness, or who can not, under said declaration, without renewing the same or making a new declaration, pursue his declared intention of becoming a citizen of the United States.

Every person who has been, or who shall hereafter be classified as a nonresident student shall be considered to retain that status until such time as he shall have made application in the form prescribed by the Registrar of the University for reclassification, and shall have been reclassified as a resident student.

Every person who has been classified as a resident student shall, nevertheless, be subject to reclassification as a nonresident student and shall be reclassified as a nonresident student whenever there shall be found to exist circumstances which, if they had existed at the time of his classification as a resident student, would have caused him to be classified as a nonresident student. If any student who has been classified as a resident student shall be determined to have been erroneously so classified, he shall be reclassified as a nonresident student, and if the cause of his incorrect classification shall be found to be due to any concealment of facts or untruthful statement made by him at or before the time of his original classification, he shall be required to pay all tuition fees which

would have been charged to him except for such erroneous classification, and shall be subject also to such discipline as the President of the University may approve.

The nonresident tuition fee may be remitted in whole or in part in the case of students in regular graduate status [except in the professional schools, e.g., Jurisprudence, Medicine, Education (leading to the Ed.D. degree), and except in the case of foreign students whose tuition is paid by their governments], who have proved that they are distinguished scholars and who are carrying full programs of work toward the fulfillment of requirements for academic higher degrees. No graduate student in regular graduate status, no matter how distinguished his scholarship may have been, will be exempted from the payment of the tuition fee if he is merely carrying some lower division courses for his cultural advancement.

The term *distinguished scholarship* in connection with the question of exemption from the payment of the tuition fee is 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 will 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. It should be clear from these statements, therefore, 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.

LIVING ACCOMMODATIONS AND GENERAL EXPENSES FOR WOMEN

A list of approved accommodations for women students is prepared for distribution at the beginning of each semester by the Dean of Women and may be obtained at her office, 239 Administration Building. No woman is permitted to complete her registration until her living accommodations have received the approval of the Dean of Women. *Women are not permitted to live in public apartments unless satisfactory arrangements concerning chaperonage are made in advance with the Dean of Women.*

Mira Hershey Hall, made available by the will of the late Miss Mira Hershey, is the only dormitory maintained on the Los Angeles campus. It is conveniently situated on the campus and accommodates one hundred thirty-one women stu-

dents. Board and room costs \$45 a month. Applications for residence for 1941-42 should be filed with the Dean of Women as early as possible; no vacancies exist for 1940-41.

A number of desirable privately owned halls of residence offer accommodations to women; two, each with a capacity of fifty students, provide board and room for from \$37.50 to \$45 a month; others, with capacities ranging from twenty to ninety-nine, have housekeeping accommodations for from \$17.50 to \$25 a month. Fifteen dollars a month is suggested as a sufficient amount for food for housekeeping students. Private homes offer housekeeping accommodations for as low as \$15 a month, and board and lodging for \$35 a month.

Self-supporting women students usually can get board and lodging in exchange for three hours of household work daily. All self-supporting women should consult the staff of the Dean of Women with respect to their plans.

Extracurricular expenses may be kept at a minimum. The expense of participating in general and honorary or professional organizations need not cost more than \$5 a semester. Membership in a social sorority may be estimated at from \$15 to \$30 a month, in addition to the cost of board and lodging.

The student living at home, although she may have no expense for board and lodging, must plan for transportation and lunch on the campus. While transportation varies according to the location of each student's home, \$10 a month is an average estimate. Lunches may be estimated at \$5 to \$6 a month. Some students reduce or eliminate this expense by bringing their lunches from home.

Personal expenses are obviously variable items. The average woman student's estimate for clothing is from \$100 to \$300 for each University year; for drugs and beauty shop, from \$15 to \$40; for recreation, from \$10 to \$50.

LIVING ACCOMMODATIONS AND GENERAL EXPENSES FOR MEN

The cost of attending the University varies greatly with the individual student; however, the majority of men students living away from home spend between \$600 and \$800 a year. Students classified as nonresidents of California must also pay the tuition fee of \$75 each semester.

The cost of board and room is estimated as from \$35 to \$45 a month. A list of rooming and boarding houses for men is prepared by the Dean of Undergraduates, and may be obtained at Room 202, Administration Building. The University does not maintain on the Los Angeles campus any dormitories for men. Students attending the University and living at home should make an estimate of the cost of transportation and include this item in the year's budget.

The initiation fees for professional fraternities vary from \$5 to \$12, and for social fraternities from \$50 to \$100. The dues for social fraternities average about \$5 a month and the cost of living in a fraternity house averages about \$40 a month. This amount does not include the cost of social affairs which may be given by the fraternity in the course of the year.

**PRINCIPAL ITEMS OF EXPENSE ESTIMATED ON A
NINE MONTHS' BASIS**

Expense Items	Minimum		Moderate		Liberal	
	Men	Women	Men	Women	Men	Women
Incidental Fee.....	\$ 58	\$ 58	\$ 58	\$ 58	\$ 58	\$ 58
Books and Supplies.....	20	20	40	40	60	60
Board and Room or Housekeeping.	180	200	325	315	400	405
Miscellaneous (Recreation, club dues, laundry, drugs, etc.).....	25	30	75	75	200	250
Total.....	\$283	\$308	\$498	\$488	\$718	\$773

NOTE: It is impossible to include in the above figures such variable items as clothes or transportation to and from home, or fees other than the incidental fee. Students classified as nonresidents of the State must also add to their estimated budgets the yearly tuition fee of \$150.

SELF-SUPPORT AND STUDENT EMPLOYMENT

Many students earn part, and a few earn all, of their expenses while attending the University. The University authorities are eager to offer as much encouragement as possible to students who must maintain themselves, but long experience has brought out the fact that the self-supporting student, early in his college life, may have to face unforeseen problems which affect his welfare.

University work demands the best that a student can give to it. The following statements are made, therefore, not to discourage the able student who must do outside 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.

(1) Whenever possible, it is wise for a student to use his savings to make the first semester of residence in the University one of freedom to give full time to academic work. He may then have an opportunity to adjust himself to new surroundings, to establish sound habits of study, and to maintain a good scholastic standing, and thereby build a foundation for the rest of his University course. By the end of the first semester the student should know the demands of university life and his own capabilities well enough to make it possible to plan, for subsequent semesters, a combined program of studies and work for self-support. Furthermore, a new student usually has difficulty in finding remunerative employment.

(2) The regular undergraduate four-year course based on an average of 15 units of academic work a semester is organized on the supposition that students will give the major part of their time and attention to their studies while attending the University. Therefore, a student who must give considerable

time and energy to outside work should consider at the outset the possibility that more than the usual eight semesters (four years) may be required to complete the program for the degree, if he is to maintain his scholastic standing and his health, and to enjoy the advantages of university life.

With reasonable diligence, a student in good health carrying an average program of study in the undergraduate departments can give as much as twelve hours a week to outside employment without seriously interfering with his college work; employment in excess of this amount should be accompanied by a reduction of the academic program carried.

(3) Students who are not physically strong or in good general health should not, under ordinary circumstances, attempt to be wholly self-supporting because of the danger of jeopardizing health and academic progress.

Bureau of Guidance and Placement

The Bureau of Guidance and Placement has as its chief function the coördination, under one executive officer, of the various placement activities on the Los Angeles and Berkeley campuses, including those of the Bureaus of Occupation and of the Offices of the Appointment Secretary.

Bureau of Occupations. Students desiring employment should register with the Bureau of Occupations, 39 Administration Building.

Little can be done in obtaining employment for students who are not actually on the ground to negotiate for themselves. Since, in general, it is difficult for a stranger to get remunerative employment, no student should come to Los Angeles expecting to become self-supporting at once but should have on hand sufficient funds to cover the expenses of at least the first semester.

Board and lodging can frequently be had in exchange for three hours of household work daily. Limited opportunities also exist for obtaining employment on an hourly basis in the following fields: typing and stenography, clerical work, housework, care of children, general manual labor, etc. The rates paid for this kind of employment vary from twenty-five to fifty cents an hour. A student qualified to do tutoring and other specialized types of work can occasionally find employment on a remunerative basis.

In 1939-40 the Federal Government provided funds at this institution for approximately eight hundred jobs, paying students from \$5 to \$20 a month. These students were selected according to need and scholarship by an administrative committee of the University. No assurance can be given of the continuation of this policy, but needy students are advised to make application at the Bureau of Occupations, 39 Administration Building, after August 1, 1940, to determine if similar aid will again be made available.

Through its full-time placement service, the Bureau of Occupations recommends graduates and students for positions in fields other than teaching or educational research. This service is available to students when they leave the University or if they desire an improvement in their employment situation after having had some experience.

Appointment Office for Teachers. The Appointment Secretary recommends graduates, students, and former students for positions in universities, 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 prepared themselves. A fee of \$5 is charged each candidate for clerical services; there is no expense to school officials seeking teachers through this office. Communications should be addressed to the Manager of the Bureau of Guidance and Placement, 123 Education Building.

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 of the result of their candidacy, and of their desires for future promotion or change of occupation. All persons who obtain the services of students through either the Bureau of Occupations or the Office of the Appointment Secretary are urged to inform the Manager of the Bureau of Guidance and Placement concerning the quality of service given.

UNDERGRADUATE SCHOLARSHIPS

The Committee on Scholarships of the University of California at Los Angeles recommends annually for award a limited number of scholarships to undergraduate students in the University of California at Los Angeles. Because of the limited number of scholarships available, the Committee must restrict the awards to students who have been in attendance at least one semester (except for the Alumni Freshman Scholarships described below). The Committee rates all candidates with respect to scholarship, need, and character, and bases its recommendations upon relative ratings of all the candidates applying at any one time. Applications for these scholarships with letters and testimonials, should be filed with the Registrar on or before March 25 preceding the academic year for which the awards are to be made; if received later they will not ordinarily be considered until the following year. A blank form of application, which gives all the necessary information, may be obtained from the Registrar.

The scholarships awarded for the year 1940-41 were as follows:

University Scholarships: two of \$250 each, and twenty-four of \$200 each.

Charles N. and Jennie W. Flint Scholarships: three of \$100 each.

E. B. Campbell Scholarships: four of \$50 each, awarded to freshmen who have completed one semester at the University of California at Los Angeles.

Lena De Groff Scholarships: five of \$75 each.

Gerole François—Pi Delta Phi Scholarship of \$80.

The Governor Gage Scholarship of approximately \$300.

The Governor Stephens Scholarship of approximately \$300.

The Governor Merriam Scholarship of approximately \$300.

M. Effie Shambaugh Scholarship of \$76.

Walter Loewy Scholarships: two of \$250 each.

Pi Lambda Theta Scholarship of \$25.

Lullie Chilton Scattergood Scholarship of \$160.

Columbia Pictures Scholarship of \$50.

Faculty Women's Club Scholarship of \$125.

Lucien N. Brunswick Scholarship of \$75.

Will Rogers Memorial Scholarships: seven of \$250 each.

Will Rogers Memorial Awards: sixteen varying from \$50 to \$200 each.

A limited number of scholarships known as the *LaVerne Noyes Scholarships* are available to needy veterans of the World War or their children; twenty were awarded for 1940-41.

Certain scholarships were available for students in the College of Agriculture; for definite information consult the PROSPECTUS OF THE COLLEGE OF AGRICULTURE.

In addition to the above-enumerated scholarships, there are several whose recipients are named by the donors; among them is the *American Legion Auxiliary Scholarship*, which is awarded to the child of a World War veteran.

Alumni Freshman Scholarships

The California Alumni Association makes available each year a certain number of scholarships to entering freshmen. These Alumni Freshman Scholarships consist of cash awards of varying amounts for freshmen who enroll on any of the three campuses. Candidates for the Alumni Freshman Scholarships may receive information by writing to the Executive Manager, California Alumni Association, 301 Stephens Union, University of California, Berkeley. Applications must be on file on or before February 15 in any one year.

In the selection of the beneficiaries of these awards, the alumni committees in charge will choose applicants not only with substantial scholastic ability but also of high character and outstanding qualities of leadership, who give promise of reflecting credit upon themselves and the University.

GRADUATE SCHOLARSHIPS AND FELLOWSHIPS

For information concerning graduate scholarships, consult the ANNOUNCEMENT OF THE GRADUATE DIVISION, SOUTHERN SECTION.

LOANS

Various organizations and individuals have contributed toward the building up of several student loan funds. The gifts for this purpose are administered by the University in accordance with the conditions laid down by the donors, and are sufficient to make small loans, for short periods of time and usually without interest, to students in an emergency. For further information, apply to the Dean of Undergraduates or the Dean of Women.

PRIZES

The generosity of alumni and friends of the University also provides each year for competitive prizes and awards in several fields. The following awards were announced at Commencement, June 15, 1940:

The J. Gimbel Award. A medal and prize given by Mr. J. Gimbel to the man who has shown the best attitude toward the University in athletic endeavor.

Pi Mu Epsilon Prize. Awarded on the basis of a competitive examination in mathematics including calculus.

Blue Circle C Society Honor Medal. Awarded on the basis of scholarship, character and service.

Medals of the Government of France. Awarded for meritorious record in scholarship in French.

Phi Beta Awards. Awarded to the outstanding seniors for activity and scholarship in the respective fields of music and drama.

Alpha Chi Sigma Prize. Awarded on the basis of a competitive examination in chemistry, open to students who are taking, or who have taken, freshman chemistry but have not had more advanced work in chemistry.

Alpha Chi Delta Awards. Given by Alpha Chi Delta fraternity to the junior woman and the senior woman in economics, commerce or business administration with the highest academic scholarship.

Phi Lambda Upsilon Prize. Awarded on the basis of a comprehensive examination covering the four-year course in undergraduate chemistry.

Mu Phi Epsilon Prizes. Given by the Los Angeles Alumnae Club of Mu Phi Epsilon to the women students winning the music competition in voice or in any musical instrument.

Chi Omega Prize. Given for the best essay on a topic in the field of economics.

Alpha Kappa Psi Medallion Award. Given by the Alpha Kappa Psi fraternity to the man graduating in business administration with the best scholastic average in that department after the receipt of the Junior Certificate.

Phi Chi Theta National Key Award. Given by the local chapter of Phi Chi Theta fraternity to the junior woman in business administration or commerce with the highest scholarship.

F. C. S. Schiller Prize. Given by Mrs. Louise S. Schiller for the best essay on Concepts of Relevance, Context, and Truth to commemorate the work of her late husband, Dr. F. C. S. Schiller.

Order of Sons of Italy in America Prize. Awarded to the undergraduate student in Italian language and literature receiving the highest grades during 1939-40.

PUBLIC LECTURES, CONCERTS, AND ART EXHIBITIONS

As opportunity offers, the University presents to its members and to the public lectures of general and of special or scholarly interest by qualified persons. These lectures are intended to supplement and stimulate the work of all departments of the University.

The musical interests of the University are served by numerous concerts open also to the public. The University organ, installed in 1930 as a gift of an unnamed donor, makes possible the offering of a regular series of programs. In 1939-40 these comprised sixty weekday noon recitals, and seventeen Sunday concerts, besides special concerts and music incidental to other gatherings. In addition to the organ, there are special concerts which in 1939-40 included recitals by Nino Martini, Bidu Sayao, Bartlett and Robertson, Donald Dickson with Raya Garbousova, Angna Enters, and the Westminster Choir; programs by the Los Angeles Philharmonic Orchestra, the San Jose State College Symphony Orchestra, the Pasadena Boys' Choir and dance recitals by Myra Kinch and Company and the Bali-Javanese Temple Dancers. Programs of an unusual type of music are offered once a month by the Collegium Musicum, University music society. Student musical programs included the University Glee Clubs and the University Bands from the Los Angeles and Berkeley campuses, the University Symphony Orchestra, the A Cappella Choir, and weekly student recitals and hours of recorded music arranged by student music fraternities.

In the past year a group of illustrated lectures was presented under the auspices of the University Extension Division. A series of public Monday night lectures by members of the University faculty was also given.

The Department of Art schedules a series of exhibitions of painting, design, and craftwork in its exhibition hall. These illustrate the work of students, local artists, national exhibitors, and occasionally of old masters. A series of dance recitals is regularly presented under the auspices of the Department of Physical Education for Women and the University Dramatic Society.

Each year the several departments of the University interested in drama present a play. The present series of plays deals with the History of Comedy.

THE ASSOCIATED STUDENTS

The extracurricular activities are administered and controlled by the Associated Students, in which all undergraduates hold membership by virtue of paying at registration the regular University incidental fee. The organization has an executive council composed of a president, two vice-presidents, two representatives of groups, and the chairmen of five activity boards. The activity boards control the activities in definite fields, such as debating, athletics, dramatics, and publications; the council coordinates the work of these boards and administers the general business of the Association. Offices of the Associated Students are in Kerekhoff Hall, a gift to the University of Mrs. William C. Kerekhoff of Los Angeles.

Members are entitled to participation in the affairs of the Associated Students, to a subscription to the *California Daily Bruin*, to free admission to many athletic contests, and to reduced rates to all other athletic contests, as well as to dramatic, social, and similar events coming under the jurisdiction of the Associated Students.

The Students' Coöperative Book Store is owned and operated by the Associated Students.

The *California Daily Bruin* and the *Southern Campus* are the official publications of the students. The *California Daily Bruin* contains news of all campus and college activities, official University announcements, and is under direct charge of an editor and a manager appointed by the Council. The *Southern Campus* is the yearbook and contains a record of the college life of the year. It is edited, managed, and financed by the students.

RELIGIOUS FACILITIES

In the immediate vicinity of the campus, at 10845 LeConte Avenue, is the University Religious Center where official representatives of the Jewish, Catholic, Episcopal, Methodist, Presbyterian, Baptist, Congregational, Disciple, Lutheran, Unitarian, and Latter Day Saints denominations have student headquarters. The Y.W.C.A. occupies its own building, at 574 Hilgard Avenue, near the entrance to the campus; in it are also the headquarters of the Y.M.C.A. and of the Christian Science organization.

At these centers are held religious discussion groups, lectures, Bible classes, social gatherings, luncheons, dinners, and other student meetings.

COLLEGE OF LETTERS AND SCIENCE

THE CURRICULA OF the College of Letters and Science are designed to provide opportunities and facilities for broadening the basis of culture, preparing a student for specialized professional studies, and developing intelligence.

Breadth of culture can be attained only through familiarity with the best that has been thought and known in the arts and sciences. To this end the student is required to select courses in the general fundamentals of human knowledge, which are available in the lower division. In the more diverse and abundant offering of the upper division the student is relatively free to continue his liberal education along lines which appear best suited to his aptitudes, needs, and purposes.

Specialization in some field of study is generally regarded as indispensable to a well-rounded education. The pursuit of a special course of study, that is, of a "major," in the upper division necessarily requires a knowledge of antecedent courses known as "prerequisites." With the assistance of his counselor the student is expected to select those lower division courses which are definitely related to his proposed advanced study. Through such guidance and selection, continuity in a chosen field of learning is assured.

The College is vitally interested in the University's broad purposes of developing qualities of leadership, initiative, responsibility, and self-discipline. For this reason, considerable freedom of choice is permitted through a system of electives, that is, of courses not directly related either to the student's major subject or to the basic requirements of the curriculum of the College. A liberal education presupposes a reasonably wide distribution of courses which contribute to a desirable balance of intellectual interest and activity.

With a view to realizing the cultural objectives outlined above, each student in his freshman and sophomore years is required to consult an educational counselor, and during his junior and senior years is required to confer with an official adviser in his major department.

Lower Division

Junior Certificate Requirements

The work of the lower division comprises the studies of the freshman and sophomore years. The Junior Certificate in the College of Letters and Science is required for admission to the upper division.

A student who transfers from another college of this University or from another institution must meet the Junior Certificate requirements; but, if credit of 60 or more units is allowed him, he is given upper division standing and may meet subject shortages concurrently with degree requirements.

Certain courses taken in the high school are accepted as fulfilling in part or in whole some of the Junior Certificate requirements. The student should so arrange his high school program as to reduce the required work in the fields of foreign language, mathematics, and natural science. However, the fulfillment

of Junior Certificate requirements in the high school does not reduce the number of units required in the University for the Junior Certificate (60) or for the degree (120).

The degree requirement of 120 units is calculated on the assumption that the student will normally take 15 units of work each semester, including the prescribed work in military science and physical education. The Junior Certificate will be granted on the completion of 60 units of college work with an average grade of C or higher, and the fulfillment of the following general and specific requirements:

(a) *General University requirements.*†

Subject A.‡

Military Science and Tactics, or Naval Science and Tactics, 6 units
(men).

Physical Education, 2 units.

(b) *Foreign Language.*—(1) At least 15 units in not more than two languages, with not less than six units in any one language. Each year of high school work with grade of at least B in foreign language not duplicated by college work§ will be counted in satisfaction of three units of this requirement, without, however, reducing the total number of units required for the Junior Certificate (60) or for the degree (120). If a new language is begun in the University it may not apply on this requirement unless course 2 with its prerequisites is completed. Courses given in English by a foreign language department will not be accepted in fulfillment of this requirement.

(2) This requirement may also be satisfied by passing a proficiency examination in one language.

(c) *Matriculation Mathematics.* Elementary algebra and plane geometry. If these subjects were not completed in the high school, they may be taken in the University of California Extension Division or Summer Sessions, but will not be counted as a part of the 60 units.

(d) *Natural Science.* At least 12 units chosen from the following list, of which not less than one unit shall be in laboratory work. Courses marked with an asterisk meet the laboratory requirement. Three units of mathematics not offered in satisfaction of requirement (e) may be substituted for three units of this requirement. Three units of the requirement may be satisfied by any third- or fourth-year laboratory science taken in high school with grade of at least B.

† For information concerning exemption from these requirements apply to the Registrar.

‡ An examination in Subject A (English Composition) is required of all entrants at the time of their first registration in the University. For further regulations concerning Subject A, see page 88.

§ Any student who because of lapse of time or other circumstance feels unable to continue successfully a language begun in high school may consult the department of the language concerned regarding the possibility of repeating all or a part of the work for credit. Such credit would count on the 60 units required for the Junior Certificate and on the 120 units required for the degree; but credit is not allowed toward the required 15 units in foreign language for both the high school and college work thus duplicated.

Junior Certificate Requirements

High school science (third- or fourth-year laboratory course).*

Astronomy 1, 2, 7A, 7B.

Bacteriology 1*, 6.

Biology 1, 12.

Botany 1A*, 1B*.

Chemistry 1A*, 1B*, 2A*, 2B*, 6A*, 6B*, 8.

Entomology 1*.

Geography 3.

Geology 2, 2L*, 3, 5*.

Naval Science 10.

Paleontology 1.

Physics 1A*, 1B*, 1C*, 1D*, 2A*, 2B*, 4A, 4B.

Physiology 1*, 2*.

Zoölogy 1A*, 1B*, 35*.

(e) *Three Year-Courses.* A year-course chosen from *three* of the following seven groups. At least one course must be chosen from group 1, 2, or 3. Only the courses specified below are acceptable.

1. English, Public Speaking:

English 1A-1B, 36A-36B.

Public Speaking 1A-1B, 2A-2B.

2. Foreign Language. Courses offered in satisfaction of this requirement may not include any of the work offered as part of the 15-unit requirement in language under requirement (b) above. No high school work may be counted on this requirement.

French, any two consecutive courses from the following: 1A, 1B, 1, 2, 3A, 3B, 3, 25A, 25B.

German, any two consecutive courses from the following: 1A, 1B, 1, 2, 3A, 3B, 3, 6A, 6B, 25A, 25B.

Greek, 1A-1B, 101, 102.

Italian, any two consecutive courses from the following: 1A, 1B, 1, 2, 3A, 3B.

Latin, any two consecutive courses from the following: A, B, 1, 2, 5A, 5B, 102, 106.

Spanish, any two consecutive courses from the following: 1A, 1B, 1, 2, 3A, 3B, 3, 20, 25A, 25B.

3. Mathematics:

Any two of the following courses: Mathematics C, 2, 6, 7, 8, 3A, 3B, 4A.

4. Social Sciences:

Anthropology 1A-1B.

Economics 1A-1B.

Geography 1A-1B.

History 4A-4B, 5A-5B, 8A-8B.

Political Science 3A-3B, 31 and 32.

5. Philosophy:

Philosophy 1A-1B, 2A-2B, 3A-3B.

6. Psychology:

Psychology 21 and either 22 or 23.

7. Art, Music:

Art 1A-1B, 2A-2B.

Music 1A-1B, 2A-2B, 35A-35B.

Summer Session Courses. Summer Session courses acceptable in meeting Junior Certificate requirements are listed each year in the bulletins of the summer sessions.

University Extension. Courses in the University of California Extension Division (either class or correspondence) may be offered in satisfaction of Junior Certificate requirements provided they bear the same number as acceptable courses in the regular session. Equivalent courses bear the prefix "XL."

Honorable mention with the Junior Certificate. Honorable mention will be granted with the Junior Certificate to students who attain an average of B; that is, at least two grade points for each unit undertaken.

Upper Division

Only those students who have been granted the Junior Certificate or who have been admitted to the College with 60 or more units of advanced standing will be registered in the upper division.

The degree of Bachelor of Arts will be granted upon the following conditions:

1. The total number of units in college courses offered for the degree must be at least 120, of which at least 108 must be in courses chosen from the Letters and Science List of Courses (see page 67). Courses numbered in the 300 and 400 series are not included on the List.

No credit is allowed toward the A.B. degree for work taken at a junior college after the student has completed 70 units toward the degree.

2. The student must attain at least a C average (one grade point for each unit of credit) in all courses taken by him in the University. Courses taken in other institutions are not counted in computing grade-point totals.

3. At least 50 units of college work must be completed after the receipt of the Junior Certificate, or after transfer from a junior college.

Junior Certificate Requirements

4. At least 36 units of upper division work in courses on the Letters and Science List must be completed after the student has attained upper division standing.

5. The requirement in American Institutions must be completed by all candidates for the degree. See page 39.

6. All candidates for the degree must be registered in the College of Letters and Science while completing the final 24 units of work. At least 12 units of the final 24 must be taken in fall or spring sessions. The remaining 12 units may be taken in the University of California summer sessions, either at Berkeley or Los Angeles. This regulation applies to students entering this University from other institutions or from the University of California Extension Division, and to students transferring from other colleges of this University.

7. Students who transfer to the University of California at Los Angeles from other institutions or from the University of California Extension Division with senior standing must complete at least 18 units in upper division courses selected from the Letters and Science List, including at least 12 units in the major department or in the general major. This regulation does not apply to students transferring from other colleges within the University.

8. The student must fulfill the requirements of either (a) or (b) :

(a) A departmental major or curriculum of at least 24 units in one of the subjects listed under the heading Organized Majors and Curricula for the Degree of Bachelor of Arts (see page 68).

(b) A general major consisting of not less than 36 upper division units selected from the Letters and Science List of Courses; these units to be chosen from not more than three departments, with not more than 15 units in any one department.

Students desiring to enroll in the general major should consult the office of the Dean of the College, 232 Administration Building.

Each student is required to take at least one course in his major during each semester of his final year.

9. No student may change his major after the opening of his final semester.

10. Any department offering a major in the College of Letters and Science may require from candidates for the degree a general final examination in the department.

Students who fail in the lower division to attain a C average in any department may be denied the privilege of a major in that department. If in the opinion of the major department any student cannot profitably continue in the major, the Dean may permit a change in the major or may, if circumstances warrant, require the student to withdraw from the College.

Letters and Science List of Courses

At least 108 units offered for the degree of Bachelor of Arts must be in subjects chosen from the Letters and Science List of Courses, and the 36 units in upper division courses (numbered 100-199) required in the upper division may be selected from the same list.

Any course not included in the Letters and Science List of Courses but required or accepted by a department as part of its major or as a prerequisite therefor, will, for students offering a major in that department at graduation, but for no others, be treated as if it were on the Letters and Science List of Courses.

The following list refers to the courses as given in the departmental offerings for the year 1940-41:

Agriculture. Agricultural Economics 104; Entomology 1, 134; Soil Science 110; Plant Pathology 120.

Anthropology and Sociology:

Anthropology. All undergraduate courses.

Sociology. All undergraduate courses.

Art. 1A-1B, 2A-2B, 4A-4B, 21, 24, 32A-32B, 42, 121A-121B, 131A-131B, 137A-137B, 144A-144B, 161A, 161B, 164A-164B, 172A-172B.

Astronomy. All undergraduate courses.

Bacteriology:

Bacteriology. All undergraduate courses.

Public Health. All undergraduate courses.

Botany. All undergraduate courses.

Business Administration. 1A-1B, 131, 140, 145, 153, and 180.

Chemistry. All undergraduate courses except 10.

Classics:

Latin. All undergraduate courses.

Greek. All undergraduate courses.

Economics. All undergraduate courses.

Education. 101A-101B, 102, 106, 110, 111, 112, 114, 119, 170.

English:

English. All undergraduate courses.

Public Speaking. All undergraduate courses.

French. All undergraduate courses.

Geography. All undergraduate courses.

Geology. All undergraduate courses.

Germanic Languages:

German. All undergraduate courses.

Scandinavian Languages. All undergraduate courses.

History. All undergraduate courses.

Home Economics. All undergraduate courses except 32, 102A-102B, 108, 175.

Italian. All undergraduate courses.

Mathematics. All undergraduate courses.

Military Science and Tactics. All undergraduate courses.

Music. All undergraduate courses except 7A-7B, 46ABCD, 108A-108B, 115A-115B.

Naval Science and Tactics. All undergraduate courses.

Oceanography. All undergraduate courses.

Philosophy. All undergraduate courses.

Physical Education for Men. 1, 3.

Physical Education for Women. 2, 4, 44, 114A-114B, 133, 135, 180.

Physics:

Physics. All undergraduate courses.

Meteorology. All undergraduate courses.

Political Science. All undergraduate courses.

Psychology: All undergraduate courses.

Spanish:

Spanish. All undergraduate courses except 10.

Portuguese. All undergraduate courses.

Zoölogy. All undergraduate courses.

ORGANIZED MAJORS AND CURRICULA IN THE COLLEGE OF LETTERS AND SCIENCE

A major (or curriculum) consists of a substantial group of coördinated upper division courses. The upper division unit requirement may represent courses in one or more departments. The details of the program must be approved by the officer in charge.

Special attention is directed to the courses listed as preparation for the major. In general, it is essential that these courses be completed before upper division major work is undertaken. In any event they are essential requirements for the completion of the major.

Not more than 30 units of upper division courses taken in one department after receiving the Junior Certificate will be counted toward the degree. *Note:* In economics, this limitation is inclusive of courses in business administration.

The major must, in its entirety, consist (1) of courses taken *in resident instruction* at this or another university (fall, spring, and summer session), or (2) of courses taken in the University of California Extension Division with numbers having the prefix XL, XB, or X.

The student must attain an average grade of C (1 grade point for each unit of credit) in all courses offered as part of the major (or curriculum).

Courses numbered in the 300 series (teachers' courses) or in the 400 series (professional courses) are not accepted as part of the major.

See further under Regulations for Study Lists, on page 42.

Organized Majors in the College of Letters and Science 69

The College offers majors or curricula leading to the degree of Bachelor of Arts in the following fields:

Curriculum in Applied Physics	Latin
Astronomy	Mathematics
Bacteriology	Curriculum in Medical Technology (with major in Bacteriology)
Botany	Music
Chemistry	Philosophy
Economics	Physics
English	Political Science
French	Curriculum in Public Service (see below)
Geography	Psychology
Geology	Sociology
German	Spanish
Greek	Zoology
History	
Curriculum in International Relations (see below)	

The requirements of the several majors are stated with the departmental offerings, beginning on page 125. In addition, requirements of majors and curricula are listed in the ANNOUNCEMENT OF THE COLLEGE OF LETTERS AND SCIENCE.

CURRICULUM IN INTERNATIONAL RELATIONS

This curriculum is designed primarily for students in the College of Letters and Science whose interests, while not specialized, fall in the field of foreign relations and diplomacy. Students interested in preparing for the American Foreign Service examinations should consult the adviser.

Lower Division

Required: Political Science 3A-3B (3-3); History 4A-4B, 5A-5B, or 8A-8B (3-3); and Economics 1A-1B (3-3). Recommended: Political Science 31 (3), 32 (3); Geography 1A-1B (3-3).

Upper Division

The curriculum comprises 36 upper division units, distributed as follows:

I. General requirements (21 units): Political Science 125 (3), 127 (3), 133A-133B (3-3); History 142C-142D, 148A-148B, or 153A-153B (3-3); and Geography 181 (3).

II. Field requirements: at least nine units in one of the four following fields of specialization—

- Far Eastern Affairs*: Political Science 136 (3), 138 (3); History 191A-191B (3-3); Geography 124 (3).
- Latin American Affairs*: Political Science 126 (3), 151 (3); History 162A-162B (3-3); Geography 122A-122B (3-3).
- European Affairs*: Political Science 154 (3), 155 (3); History 148A-148B (3-3) (if not offered under I, above), 149A-149B (2-2), 142A-142B (3-3); Geography 123A-123B (2-2).

- (d) *British Empire Affairs*: Political Science 153 (2); History 153A-153B (3-3) (if not offered under I, above), 152A-152B (2-2), 155A-155B (2-2); Geography 121 (3).

III. Electives: six additional units chosen from the courses listed above or from Political Science 110 (3), 112 (3); History 112A-112B (3-3), 144A-144B (2-2); Economics 195 (3).

Candidates for the degree in this curriculum will be required to give evidence of their ability to read the current literature in the field in one modern language: French, German, Spanish, or Italian. With permission, candidates may offer Oriental or Slavic languages.

CURRICULUM IN PUBLIC SERVICE

The Curriculum in Public Service is designed to be of assistance to students who wish to qualify themselves for positions in government work. It should be noted that a large percentage of government positions are open only through competitive examinations. The curriculum, therefore, is designed to allow the student to coördinate a program drawn from several departments in preparation for a general class of positions. While the curriculum is primarily related to Political Science, it is designed to allow a broader training in administrative work than is permitted a departmental major.

Lower Division

Required: Business Administration 1A-1B (3-3), Economics 1A-1B (3-3), Political Science 3A-3B (3-3). In certain fields, other courses are prerequisite to upper division courses included in the curriculum:

Public Welfare—Sociology 30A-30B.

Public Personnel—Psychology 21, 23.

Public Relations—Six units of lower division history.

Recommended: Economics 40 (3), English 1A-1B (3-3), Public Speaking 1A-1B (3-3), Mathematics 8 (3), Mathematics 21 (3), Political Science 34 (3).

Upper Division

Required: Thirty-six units of upper division work, including: Business Administration 140, Political Science 141, 156, 163, 181. The program shall be selected from one of the fields:

Public Management

Public Personnel Administration

Public Welfare Administration

Public Relations

Financial Administration

Variations in the programs may be made with the approval of the adviser. For information regarding specific courses in each field, consult the advisers.

THE GENERAL MAJOR

To meet the needs of students who do not desire to specialize, the College provides a liberalized curriculum to be known as a "general major," consisting of 36 units in upper division courses (together with their prerequisites) chosen from the Letters and Science List. These 36 units are to be chosen from not more than three departments, with not more than 15 units in any one department. An average grade of C is required in each departmental group of courses comprising the general major.

Because of its flexibility, this plan makes a special appeal to many students who have professional objectives not identified with any particular major, such as elementary teaching, law, journalism, and librarianship, as well as to those who desire only a broad general culture.

HONORS

Honorable Mention with the Junior Certificate.

1. Honorable mention is granted with the Junior Certificate to students who attain at least an average of two grade points for each unit undertaken.
2. The list of students who receive honorable mention with the Junior Certificate is sent to the chairmen of departments.
3. A student who gains honorable mention has thereby attained the honors status for his first semester in the upper division.

Honor Students in the Upper Division.

1. An honors list is prepared in the fall semester, and also in the spring semester if the Committee on Honors so decides. This list is published in the CATALOGUE OF OFFICERS AND STUDENTS. The department of the student's major is named in the list.
2. The honors list includes the names of:
 - (1) Students who have received honorable mention with the Junior Certificate and who are in their first semester of the upper division.
 - (2) Upper division students who have an average of at least two grade points for each unit undertaken in all undergraduate work at the University of California at Los Angeles.
 - (3) Other upper division students specially approved for listing in the honors status by the Committee on Honors, either upon recommendation made to the Committee by departments of instruction, or upon such other basis as the Committee may determine.

Honors with the Bachelor's Degree.

1. Honors are granted at graduation only to students who have completed the major with distinction, and who have a general record satisfactory to the Committee on Honors.
2. Before Commencement each department determines, by such means as it deems best (for example, by means of a general final examination), which students it will recommend for honors at graduation, and reports its recommendations to the Registrar.
3. Students who, in the judgment of their departments, display marked superiority in their major subject, may be recommended for the special distinction of highest honors.
4. The Committee on Honors will consider departmental recommendations and will confer with the several departments about doubtful cases. The Committee is empowered at its discretion to recommend to the Committee

on Graduation Matters that honors be not granted to any student who has failed to attain a B average in the major, or in the upper division, or in all undergraduate work.

5. The list of students to whom honors or highest honors in the various departments have been awarded is published in the COMMENCEMENT PROGRAMME.

PREPARATION FOR VARIOUS PROFESSIONAL CURRICULA

Certain courses given at the University of California at Los Angeles may be used as preparatory to admission to the professional colleges and schools of the University in Berkeley and in San Francisco.

CURRICULUM OF THE COLLEGE OF CHEMISTRY

In addition to the major in chemistry in the College of Letters and Science, the first two years of the curriculum of the College of Chemistry, leading to the B.S. degree, are offered at Los Angeles. To complete this curriculum, the student must transfer to the Berkeley departments of the University of California at the end of his second year. Before entering upon this program, he should consult the adviser for students in chemistry; ordinarily the student in chemistry finds more freedom in his program by enrolling in the College of Letters and Science.

Preparation. Students who propose ultimately to enter the College of Chemistry must include in their high school programs physics (1 unit), chemistry (1 unit), mathematics, including trigonometry (3 units), German or French (2 units), and geometrical drawing (1 unit). Students without this preparation will ordinarily not be allowed to enroll in the College of Chemistry.

A satisfactory reading knowledge of scientific German before the junior year is essential. A reading knowledge of French will also be of advantage.

PREDENTAL CURRICULA

The College of Dentistry offers three curricula: the first and second lead to the degrees of Bachelor of Science and Doctor of Dental Surgery, with a major in restorative dentistry or preventive dentistry, and the third (limited to women students) provides training in dental hygiene and leads to the Bachelor of Science degree.

The academic (undergraduate) and professional curriculum leading to the degrees of B.S., D.D.S., covers six years. The degree of Bachelor of Science is awarded at the end of five years—two years in the College of Letters and Science at Berkeley or Los Angeles, followed by three years of the four-year professional curriculum in the College of Dentistry at San Francisco—and the degree of Doctor of Dental Surgery is awarded after one additional year (the fourth year of the professional curriculum) in San Francisco.

For the training of dental hygienists a two-year professional curriculum is offered. Every applicant for admission to this two-year professional curricu-

lum in dental hygiene is required to present credentials covering two years of academic instruction comparable in all respects to the first two years of instruction in the six-year dental curricula. On completion of the curriculum for dental hygienists, the degree of Bachelor of Science will be awarded. The ANNOUNCEMENT OF THE COLLEGE OF DENTISTRY contains detailed information about the curriculum in dental hygiene.

The student seeking admission to one of the six-year curricula is advised to take the following subjects in high school: English, 3 units; history, 1 unit; mathematics, 3 units (algebra, plane geometry, and trigonometry); chemistry, 1 unit; physics, 1 unit; foreign language, 3 or, preferably, 4 units.

Applicants for admission to the College of Dentistry must have completed at least 60 units of college study, including the requirements (2) to (5) inclusive listed below.

The student in the University of California preparing himself for admission to the College of Dentistry should complete the requirements for the Junior Certificate in the College of Letters and Science (see pages 62-65).

Requirements for First and Second Years

(1) *General University requirements**

Subject A (see page 38)

Military Science and Tactics (men)..... 6 units

Students in the Naval Unit will substitute for 6 units of military science, 6 units of naval science and 4 units of astronomy. (Not required of students who enter with two years of advanced standing.)

Physical Education 2 units
(Required at the University of California at Los Angeles.)

(2) *Foreign language†*

Not more than two languages..... 15 units

(3) *A full year of study in each of three of the following groups [at least one chosen from groups (a), (b), or (c)]:‡*

(a) English or public speaking;

(b) Foreign language, additional to (2) above;

(c) Advanced mathematics;

(d) Social sciences (anthropology, economics, geography, history, political science);

(e) Philosophy;

(f) Psychology;

(g) Art or music..... 18 units

(4) *Chemistry* (the numbers in parentheses refer to courses at the University of California which fulfill requirements): inorganic (1A-1B), 10 units, and organic (8), 3 units..... 13 units

(5) *Additional science*: At least 5 units in one of the following: physics (2A-2B)§, zoölogy with laboratory (1A, 1B), physiology (1 and 2)..... 5-8 units

* The requirement of American Institutions is also prerequisite to the bachelor's degree (see page 39).

† This requirement may be partially satisfied in high school (see page 63).

‡ Note requirement (e) for the Junior Certificate and the list of courses accepted in satisfaction of this requirement (see page 64).

§ Trigonometry is prerequisite to this course.

Students entering the College of Dentistry in and after August, 1940, must have a scholarship average of at least grade C in all work of college level.

In planning his program, the student is advised to complete as many of the required subjects as possible in the first year, including inorganic chemistry. The remaining required science should be taken in the second year. It is also recommended that he choose as an elective subject a course in either a physical or a biological science. This should not be in the same field as the science offered under requirement (5) above.

Information concerning the third, fourth, fifth, and sixth years in the curricula leading to the degree of Bachelor of Science and Doctor of Dental Surgery in this college, will be found in the ANNOUNCEMENT OF THE COLLEGE OF DENTISTRY. Address the Dean of the College of Dentistry, University of California Medical Center, San Francisco, California.

PRELEGAL CURRICULA

Professional instruction in law in the University of California is given in the School of Jurisprudence in Berkeley and in the Hastings College of the Law in San Francisco.

Admission to the School of Jurisprudence in candidacy for the degree of Bachelor of Laws in the three-year curriculum is limited to students holding an approved bachelor's degree in arts or science with a minimum scholarship average of 2.0 (B average); the degree may be obtained in the College of Letters and Science of the University of California at Los Angeles. The School of Jurisprudence also offers a graduate curriculum of one year leading to the degree of Doctor of Science of Law (J.S.D.), open only to applicants who hold both an academic bachelor's degree and an approved professional degree in law.

The Hastings College of the Law offers a curriculum of three years leading to the degree of Bachelor of Laws; admission to this college is limited to holders of the Junior Certificate or its equivalent. The College of Letters and Science of the University of California at Los Angeles grants this Junior Certificate upon completion of the requirements stated on page 62.

PREMEDICAL CURRICULUM: THREE YEARS

It is assumed that as preparation for this curriculum the student will have completed in the high school the following subjects: English, 3 units; history, 1 unit; mathematics, 2 units (elementary algebra and plane geometry); chemistry, 1 unit; physics, 1 unit; foreign language (preferably French or German), 2 units. The Junior Certificate requirements may be met more easily if the foreign language has been pursued four years in the high school. It is desirable that a course in freehand drawing be taken in high school. If possible, the student should also complete in high school intermediate algebra, $\frac{1}{2}$ unit, and trigonometry, $\frac{1}{2}$ unit, although these courses may be taken in the University. Trigonometry is prerequisite to the premedical courses in physics.

It is important for students to bear in mind that the class entering the Medical School is limited; in the past there have been a great many more applicants than could be admitted. Premedical students who, upon the conclusion of their third (junior) year, find themselves thus excluded from the Medical School, will be unable to obtain the bachelor's degree in the College of Letters and Science at the end of the fourth year, unless they plan their program with this contingency in mind. They should, therefore, either enter a departmental major at the beginning of the junior year, at the same time meeting all premedical requirements, or include in their premedical program a sufficient number of appropriate courses in some major department. Provision for the completion of such a major does not prejudice the student's eligibility for admission to the Medical School.

For matriculation in the Medical School—the five-year professional curriculum leading to the degree of Doctor of Medicine—the student must have attained senior standing in the premedical curriculum in the College of Letters and Science (see page 76).

All applicants for admission to the Medical School are required to take the Medical Aptitude Test of the Association of American Medical Colleges. This examination will be given in December, 1940, for students applying for admission to a medical school in 1941; information concerning the place and date may be obtained from the Registrar.

Applications for admission to the Medical School for any academic year must be filed with the Registrar, University of California, Berkeley, not later than January 15, prior to the opening of the fall session, and must be accompanied by a draft or money order for \$3 in payment for the application fee. A deposit of \$50 will be required at the time of acceptance of an applicant to the Medical School. This deposit may be refunded if the student fails to meet the requirements but it is not refundable if he accepts appointment to another medical school.

The number of students who may be admitted to each first-year class from institutions outside the state of California is limited to five, and of these five not more than one will be selected from institutions of any one state.

Owing to the limitation of enrollment in the classes of the Medical School, candidates are selected on the basis of scholarship rank, Medical Aptitude Test score, and personal rating based on interviews with a committee appointed by the President of the University.

The Committee on Admissions to the Medical School is authorized to refuse admission to students who have low academic records and to those of obvious physical, mental, or moral disability. Successful candidates must pass a physical examination before registering in the Medical School.

An applicant for admission to the Medical School who in any year is rejected because of inferior scholarship may at once present a second application for admission. With this application he should submit a detailed statement of the

studies and other employments, if any, with which he intends to further prepare for the work of the Medical School. If his plan receives the approval of the Committee on Admissions, he is listed with other applicants for admission at the beginning of the next academic year and the success of his candidacy will depend upon his scholarship rank as a member of that group.

An accepted applicant who is unable to begin his work in the Medical School in August, or who actually enters but finds it necessary to withdraw in his first year, loses his place and, if he desires to begin work in a later year, is required to reapply with the group of applicants for that year. Successful candidates must pass a satisfactory medical examination before registering in the School. Students in attendance in San Francisco are examined annually.

The State law governing the practice of medicine in California prescribes that every person, before practicing medicine or surgery, must produce satisfactory testimonials of good moral character and a diploma issued by some legally chartered medical school, whose requirements meet in every respect the Medical Practice Act of California as attested by the last annual approval of the California State Board of Medical Examiners. The requirements for matriculation in the University of California Medical School cover those set by the Association of American Medical Colleges, provided the high school program includes physics and chemistry.

For further information see the annual ANNOUNCEMENT OF THE MEDICAL SCHOOL, to be obtained from the Dean's office, University of California Medical School, Medical Center, Third and Parnassus avenues, San Francisco.

The following tabulated curriculum represents a satisfactory arrangement of work to meet the entrance requirements for the Medical School:

Premedical Program

A. For students who have completed *two years* of foreign language in high school.

<i>First Year</i>	Units first semester	Units second semester
Subject A (examination or course in Subject A).....	..	..
Military or Naval Science (for men).....	1½	1½
Physical Education.....	½	½
Chemistry 1A-1B.....	5	5
*English 1A-1B or Public Speaking 1A-1B.....	3	3
†Foreign language.....	5	3 or 5
Electives as necessary to make up units.....	..	..
	<hr/> 16	<hr/> 16

* English 1A-1B. If the student fails to pass the examination in Subject A it will be necessary to postpone English 1A-1B until he has completed the course in Subject A, for which no units are allowed.

† Foreign language. The Medical School requirement is 10 units of credit in either French or German, and the junior certificate requirement is 15 units of foreign language in not more than two languages. These may be satisfied partly in the high school. The student's program should be made to satisfy these requirements.

Second Year

	Units first semester	Units second semester
Military or Naval Science (for men).....	1½	1½
Physical Education.....	½	½
Zoölogy 1A-1B.....	5	5
Year course (Requirement "e" for the Junior Certificate) ..	3	3
Year course (Requirement "e" for the Junior Certificate) ..	3	3
Chemistry 8.....	3	..
Chemistry 6A.....	..	3
	<hr/> 16	<hr/> 16

Third Year

American Institutions 101.....	2	..
Physics 2A-2B.....	4	4
Zoölogy 4.....	2	..
Electives.....	8	12
	<hr/> 16	<hr/> 16

B. For students who have completed *four years* of foreign language in high school.

First Year

Subject A (examination or course in Subject A).....	..	..
Military or Naval Science (for men).....	1½	1½
Physical Education.....	½	½
Chemistry 1A-1B.....	5	5
*English 1A-1B or Public Speaking 1A-1B.....	3	3
Year course (Requirement "e" for the Junior Certificate) ..	3	3
Year course (Requirement "e" for the Junior Certificate) ..	3	3
	<hr/> 16	<hr/> 16

Second Year

Military or Naval Science (for men).....	1½	1½
Physical Education.....	½	½
Zoölogy 1A-1B.....	5	5
Chemistry 8.....	3	..
Chemistry 6A.....	..	3
Electives (Foreign language if necessary to complete 15 units for Junior Certificate).....	6	6
	<hr/> 16	<hr/> 16

Third Year

American Institutions 101.....	2	..
Physics 2A-2B.....	4	4
Zoölogy 4.....	2	..
Electives.....	8	12
	<hr/> 16	<hr/> 16

* English 1A-1B. If the student fails to pass the examination in Subject A it will be necessary to postpone English 1A-1B until he has completed the course in Subject A, for which no units are allowed.

OTHER PROFESSIONAL CURRICULA IN THE UNIVERSITY

Architecture. The School of Architecture in Berkeley offers a curriculum of two years subsequent to the bachelor's degree, leading to the degree of Graduate in Architecture. The College of Letters and Science in Berkeley also offers an undergraduate four-year program leading to the degree of Bachelor of Arts. Only the academic courses in this program may be taken in the College of Letters and Science at Los Angeles; consequently, the student desiring a major in architecture is advised to enroll at Berkeley in order to complete the curriculum in four years.

Librarianship. The School of Librarianship in Berkeley offers a curriculum of two years subsequent to the bachelor's degree, leading at the end of the first year to the Certificate in Librarianship, and at the end of the second year to the degree of Master of Arts. The A.B. degree of the University of California (Los Angeles or Berkeley) or its equivalent, full graduate standing in the University, and one year each of college French and German are required for admission.

Public Health. The University offers a professional curriculum in public health, based on matriculation in the Medical School, leading to the degree of Doctor of Medicine at the end of five years, and to the degree of Doctor of Public Health in two additional years. Students of medicine in the University of California may present one year of the specific Public Health program in fulfillment of the fifth year in the Medical School, thereby reducing by one year the time required for the degree of Doctor of Public Health.

Social Welfare. The Graduate Council at Berkeley has authorized a professional curriculum of one year subsequent to the bachelor's degree, leading to the Certificate in Social Welfare. The bachelor's degree may be obtained in the College of Letters and Science of the University of California at Los Angeles. Students intending to enter the curriculum should communicate with the Department of Social Welfare, University of California, Berkeley, at an early period in the undergraduate program for assistance and advice in planning their undergraduate preparation.

JOURNALISM

The University of California at Los Angeles does not have a curriculum in journalism; a student who desires to prepare himself in this field should enroll in the College of Letters and Science and with the assistance of his adviser, arrange a program containing fundamental courses in English, economics, history, political science, modern languages, and science.

RELIGION

Students having a cultural or professional interest in religion and religious education will find in the offerings of various departments many courses germane to these fields of study. In completing the requirements for a degree, including the requirements for a departmental or general major, a student can by judicious selection acquire basic preparation for various forms of religious leadership.

COLLEGE OF BUSINESS ADMINISTRATION

COURSES WHICH CONSTITUTE the curricula of the College of Business Administration are designed to give students who choose to work toward the Bachelor of Science degree a well-balanced introduction to professional careers in business. Certain fundamental courses are included in the requirements for the completion of the Junior Certificate which should give the student the proper background for more technical offerings when the upper division is reached. At the beginning of the junior year the student selects a major field in which advanced work will be completed in the more specialized professional fields of accounting, banking and finance, marketing, or management and industry. While the greatest value of such specialization is largely dependent upon a wise choice in one of those basic fields, students who desire to obtain a more general business training may work toward that end by taking the general business major. With the approval of the Dean the major may be changed not later than the beginning of the senior year. Details covering all phases of the work offered in the College are set forth on the following pages, under Lower Division and Upper Division Requirements.

Every student, upon his matriculation in the University, is assigned to an adviser who will gladly assist him in the selection and arrangement of his course of study, and to whom he may go when problems of a social or a scholastic nature arise. While the student may occasionally be summoned to confer with his adviser, it is his privilege at all times to seek an interview during the hours designated on the adviser's door card.

Special Secondary Teaching Credential in Business Education. Candidates for the bachelor's degree in the College of Business Administration may secure the Special Secondary Teaching Credential in Business Education by completing certain additional requirements, as set forth in the ANNOUNCEMENT OF THE SCHOOL OF EDUCATION, LOS ANGELES.

Summer Session courses. Students who wish to satisfy the specific subject requirements in the summer sessions, may use only those courses which are the equivalent of courses offered in the fall or spring sessions listed as acceptable in meeting requirements and which are designated by the same numbers with the prefix "S."

University Extension. Students who desire to satisfy the specific subject requirements in the University of California Extension Division may use only those courses which are the equivalents of courses offered in the fall or spring sessions listed as acceptable in meeting the requirements.

Approved courses for electives in the College. All undergraduate courses in the Letters and Science List (see page 67), will be accepted for credit toward the B.S. degree. A maximum of 6 units of electives aside from the preceding will be accepted for credit toward the degree.

Program limitation. A student who is not restricted in his study list and who is not on probation may present a study list aggregating 12 to 18 units a

semester without special permission with respect to quantity of work, save that in his first semester of residence the maximum must not exceed 16 units. A student who is not under the supervision of the Committee on Reinstatement but has a deficiency in the work of the previous semester is limited to 16 units. All courses in Military or Naval Science and Physical Education and repeated courses are to be counted in the totals.

Lower Division

Junior Certificate Requirements

The Junior Certificate of the College of Business Administration is required for admission to the upper division of the College. It is granted to students who have completed 64 units of college work, with a grade-point average in all work done in the University of not lower than 1.00 (a C average), and who have satisfied requirements (a) to (e) below. While some of these requirements may be satisfied by work in the high school, work done prior to graduation from high school will not be counted as part of the 64 units.

(a) *General University requirements:*

Subject A.

Military Science and Tactics (or Naval Science and Tactics), 6 units (men).

Physical Education, 2 units.

(b) *Either:*

Foreign Language. At least 16 units in one foreign language. Each year of high school work in this language, not duplicated by college courses taken by the student, will count as 3 units in satisfaction of this requirement, but will not reduce the total number of units for the Junior Certificate or the degree.

Or:

Natural Science. At least 14 units chosen from the following list, including not less than 4 units of college courses with laboratory work. [Courses marked with an asterisk (*) meet the laboratory requirement.] One year of chemistry or physics completed in the high school will each count as 3 units in satisfaction of the natural science requirement, but will not reduce the total number of units for the Junior Certificate or the degree.

High school chemistry.

High school physics.

Chemistry 2A-2B, 8 units.*

Physics 2A-2B, 8 units.*

Zoölogy 1A, 5 units.*

Botany 1A, 4 units.*

Astronomy 1, 3 units.

Biology 1, 3 units.

Geology 2, 3 units.

(c) *Social Science.* At least 6 units in social service chosen from the following list:

Political Science 3A-3B, 6 units.

History 4A-4B, 6 units; 8A-8B, 6 units; 46, 3 units.

Psychology 21, 22, 6 units.

(d) *Required courses:*

Business Administration 1A-1B, 6 units.

Economics 1A-1B, 6 units.

English 1A, 3 units.

Geography 5A-5B, 6 units.

Mathematics 8, 3 units.

Mathematics 2, 3 units.

•Public Speaking 1A, 3 units.

(e) *Matriculation Mathematics.* Elementary algebra and plane geometry. If these subjects were not completed in the high school, they may be taken in the University of California Extension Division or Summer Sessions, but will not be counted as a part of the 64 units.

Upper Division

The Junior Certificate is required as a prerequisite to registration in the upper division, except for students who have been granted 64 or more units of advanced standing; such students may complete the remaining lower division requirements while registered in the upper division. Except for such students there must be completed at least 50 units of credit after qualifying for the Junior Certificate. All students must complete a minimum of 36 upper division units chosen from the list of approved courses for electives.

(a) *University requirement:* American Institutions 101, or its equivalent, is required of all candidates for the degree of Bachelor of Science (see page 39).

(b) *General requirements:*

Junior required courses: Business Administration 18A-18B, 120, 140, 160A, 180.

Economics 135.

Senior required course: Business Administration 100.

(c) *Special Elective.* Three units chosen from the following:

Business Administration 110, 116, *132, 145.

Economics 131A-131B, 132, 150, 171, 173.

(d) *At least nine upper division units in one of the five following majors:*

(1) *Accounting:* Business Administration 160B, 161, 162, 163.

(2) *Banking and Finance:* Business Administration 131, 132, 133, 139.

(3) *Marketing:* Business Administration 184, 185, 186; Economics 195.

(4) *Management and Industry:* Business Administration 121A-121B, 125, 144, 153.

(5) *General Business:* Business Administration 125, 131, 160B, 184.

* Finance majors may not take this course to meet the Special Elective requirement.

The major must be started not later than the beginning of the second semester prior to the date of graduation.

(e) All candidates for the B.S. degree are required to take at least 12 units of electives outside the Department of Business Administration, chosen from the Letters and Science List of Courses (see page 67). These electives may consist of either lower or upper division courses.

(f) *Scholarship requirements:* A candidate for graduation is required to meet the following minimum scholarship requirements:

- (1) At least a C average in all work undertaken in the University.
- (2) At least a C average in all upper division courses taken in the Department of Business Administration.
- (3) At least a C average in all subjects undertaken in the major.

Summary—Units and Grade-Point Requirements Bachelor of Science Degree

Junior Certificate requirements.....64 units with 64 grade points

Upper division requirements:

General requirements	27 units
Major requirement	9 units
University requirement	2 units
Electives	18 units

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Total 56 units

Total minimum requirements for B.S.

degree.....120 units with 120 grade points

HONORS

The Executive Committee of the College will recommend for Honors or Highest Honors such students as it may judge worthy of that distinction.

COLLEGE OF AGRICULTURE

THE COLLEGE OF AGRICULTURE of the University of California offers at Los Angeles the Plant Science curriculum and the major in Subtropical Horticulture leading to the Bachelor of Science degree. This major is not available on the other campuses where the College of Agriculture offers instruction. As rapidly as practicable, courses in floriculture and ornamental horticulture will be provided on the Los Angeles campus so as to make possible specialization within the major in any one of three coördinate fields—subtropical fruits, flower crops, and ornamental plants. Graduate work is also offered which leads to the Master of Science and Doctor of Philosophy degrees in Horticultural Science.

Students electing other majors in the Plant Science curriculum—Agronomy, Fruit Products, Genetics, Irrigation, Plant Pathology, Pomology, Truck Crops, and Viticulture—may spend the freshman and sophomore years at Los Angeles and then transfer to the campus—Berkeley or Davis—where their major work is offered. The same is true of students electing other curricula in the College of Agriculture—Animal Science, Agricultural Economics, Agricultural Education, Entomology, Forestry, and Soil Science—and the curriculum in Agricultural Engineering. Students who plan to major in Landscape Design are advised to transfer to Berkeley at the beginning of the sophomore year. Students who register at Los Angeles with the intention of later transferring to Berkeley or Davis to pursue other curricula or to obtain majors in the Plant Science curriculum other than Subtropical Horticulture are requested to consult the PROSPECTUS OF THE COLLEGE OF AGRICULTURE and the appropriate adviser in Agriculture at Los Angeles.

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE

PLANT SCIENCE CURRICULUM, MAJOR IN SUBTROPICAL HORTICULTURE

The candidate for the degree of Bachelor of Science in the College of Agriculture must complete the following requirements:

(1) Four years of university residence. The senior year must be spent in the College of Agriculture at this University.

The student should note that in order to complete the work in agriculture within the normal four-year period, prerequisites must be systematically met and the proper sequence of courses followed. Unnecessary delay will thereby be avoided. It is advisable, therefore, for the student who wishes to receive his bachelor's degree in agriculture at the University of California to take as much of his undergraduate program as possible in the University.

(2) One hundred and twenty-four semester units of university work, with at least an equal number of grade points, in addition to matriculation units and

Subject A. (The Subject A examination in English Composition is required of every undergraduate student on or before his first registration in the University.) Further regulations concerning Subject A are given on page 38.

(3) Thirty-six of the 124 units must be in upper division courses (courses numbered 100-199). Not more than 4 units may be in lower division physical education courses.

(4) Nine units of mathematics, including trigonometry. Matriculation work may be offered toward this requirement, with each year of high school work valued at 3 units. The student normally satisfies this requirement before the end of his sophomore year in the University.

(5) American Institutions. The student may meet this requirement by passing an examination for which no credit is given, or by completing one of the following courses: American Institutions 101, History 171A-171B, History 171B-171C, History 172A-172B, Political Science 3A, or the equivalents of these courses given in University Extension.

(6) In addition to requirement (4) above, every student must complete the requirements as listed under the following curriculum:

PLANT SCIENCE CURRICULUM

(a) Students must complete the following:

	Units
Chemistry	16
Botany and Plant Physiology	12
Physics	6
Bacteriology	4
Economics	6
Genetics	4
Plant Pathology	4
Plant Nutrition (Soil Science 110)	4
Entomology	4
Zoölogy	4
Geology	3
Military and Physical Education	8
	<hr/>
	75

(b) Students also must take a major with the minimum of 12 units of upper division work in Subtropical Horticulture.

Freshman and Sophomore Years

During the freshman and sophomore years the following schedule will normally be followed. For examples of programs in other curricula of the College of Agriculture students should consult the PROSPECTUS OF THE COLLEGE OF AGRICULTURE and the appropriate adviser for agricultural students at Los Angeles.

The College of Agriculture requirements for graduation are the same whether the student registers at Berkeley, Davis, or Los Angeles.

Example of Program—Plant Science Curriculum

<i>Freshman Year</i>	Units first semester	Units second semester
Military or Naval Science (for men)	1½	1½
Physical Education	½	½
Botany 1A-1B	4	4
Chemistry 1A-1B	5	5
Physics 2A-2B or 4A-4B	4 or 3	4 or 3
Economics 1A .....	..	3
Geology 2	3	..
	<hr/> 18 or 17	<hr/> 18 or 17

<i>Sophomore Year</i>		
Military or Naval Science (for men)	1½	1½
Physical Education	½	½
Botany 6, 7	3	4
Chemistry 6A, 8	3	3
Zoölogy 1A	5	..
Bacteriology 1 .....	..	4
Economics 1B .....	..	3
Horticulture 2	3	..
Horticulture 3 .....	..	1
	<hr/> 16	<hr/> 17

There is no Junior Certificate in the College of Agriculture. Consequently students who are unable to meet the above-outlined program of study during the first two years may take some of the requirements in their junior or senior years. It should be noted, however, that any great departure from the above program may delay graduation beyond the normal four-year period.

Junior and Senior Years

The additional required courses—Entomology 134, Zoölogy 130 and 131 (Genetics), Soil Science 110, Plant Pathology 120, and American Institutions 101—together with such electives in any department as may be approved by the major adviser will be taken during the junior and senior years. Entomology 1, normally taken in the sophomore year, may be substituted for course 134 and Plant Pathology 130 for course 120. For elective courses in other departments the latter pages of this Catalogue should be consulted.

Students should consult the major adviser concerning the 12 units required for the major in Subtropical Horticulture. Normally these will include courses 100, 101, and 102.

OTHER CURRICULA

The requirements in the other curricula offered by the College of Agriculture will be found in the PROSPECTUS OF THE COLLEGE OF AGRICULTURE. Programs suitable for the conditions at Los Angeles may be had from the appropriate adviser in Agriculture, who should be consulted.

HONORS

Students who become candidates for the bachelor's degree in the College of Agriculture may be recommended for honors on the basis of the quality of the work done in the regular curriculum.

I. *Honorable mention with Junior Standing* (that is, to students who have completed 64 units in their freshman and sophomore years).

- (1) Honorable mention is granted with junior standing to students who attain at least an average of two grade points for each unit of credit undertaken. Such students will remain in honors status unless their average for all work at the end of any semester falls below two grade points for each unit undertaken.
- (2) The list of students who receive Honorable Mention is sent to the chairman or study-list officer of the College before the beginning of the next semester. The list of those in honors status is published in the **CATALOGUE OF OFFICERS AND STUDENTS**.

II. *Honors with the Bachelor's Degree.*

- (1) Honors are granted at graduation only to students in honors status who have completed the major with distinction, and who have a general record satisfactory to the Committee on Honors.
- (2) Students who, in the judgment of the Committee on Honors, show marked superiority in their major subject may be recommended for the special distinction of Highest Honors.
- (3) A list of students to whom Honors or Highest Honors in the College have been awarded is published in the **COMMENCEMENT PROGRAMME**.

COLLEGE OF APPLIED ARTS

THE COLLEGE OF APPLIED ARTS was established on the Los Angeles campus of the University of California to meet a demand for curricula of a specialized character which have to a considerable extent technical or professional appeal, and to maintain and develop certain curricula leading to special secondary teaching credentials. In keeping with the policy of the University to serve the needs of the community and the State, it is expected that the curricular offerings will be broadened from time to time.

With the discontinuance of the Teachers College July 1, 1939, the College of Applied Arts began to offer four-year curricula in art and music leading to the Bachelor of Arts degree, and in home economics, mechanic arts and physical education leading to the Bachelor of Science degree. A group major in dance leading to the degree of Bachelor of Science will be added in 1940-41. In addition, for properly qualified graduate nurses, a curriculum has been established leading to the Bachelor of Science degree. In all of these curricula except Public Health Nursing and the group major in dance it will be possible to secure the Special Secondary Teaching Credential by following closely regulations laid down by the School of Education. It should be noted, however, that it is now possible to obtain the degree without working for the teaching credential.

Certain lower division curricula are listed in the offering of the College of Applied Arts. These include Preengineering, Premining, Prenursing, Preoptometry, and Prepharmacy. These curricula may be used as preparation for admission to the professional colleges and schools of the University in Berkeley and in San Francisco.

REQUIREMENTS FOR GRADUATION

Lower Division

Junior Certificate Requirements

The work of the lower division comprises the studies of the freshman and sophomore years. The Junior Certificate in the College of Applied Arts is required for admission to the upper division.

A student who transfers from another college of this University or from another institution must meet the Junior Certificate requirements; but, if credit of 60 or more units is allowed him, he is given upper division standing and may meet subject shortages concurrently with degree requirements.

Certain courses taken in the high school are accepted as fulfilling in part or in whole some of the Junior Certificate requirements. The student should so arrange his high school program as to reduce the required work in foreign language. However, the fulfillment of Junior Certificate requirements in the high school does not reduce the number of units required in the University for the Junior Certificate (60) or for the degree (120).

The degree requirement of 120 units is calculated on the assumption that the student will normally take 15 units of work each semester, including the prescribed work in military science and physical education. The Junior Certificate will be granted on the completion of 60 units of college work with a grade point average in all work done in the University of not less than 1.00 (a "C" average) and the fulfillment of the following general and specific requirements:

(a) *General University requirements.*[†]

Subject A.[‡]

Military Science and Tactics, or Naval Science and Tactics, 6 units (men).

Physical Education, 2 units.

(b) *Either:*

(b₁) *Foreign Language.* At least 15 units in one foreign language. Each year of high school work in this language of grade B or higher not duplicated by college work[§] will count as 3 units in satisfaction of this requirement, but will not reduce the total number of units for the Junior Certificate or the bachelor's degree. Courses given in English by a foreign language department will not be accepted in satisfaction of this requirement.

OR

(b₂) *Natural Science.* At least 12 units chosen from the following list, of which not less than 3 units must be in courses with laboratory work. Courses marked with an asterisk (*) apply on the laboratory requirement.

Astronomy 1, 2, 7A-7B.

Bacteriology 1*, 6.

Biology 1, 12.

Botany 1A*, 1B*.

Chemistry 1A*, 1B*, 2A*, 2B*, 6A*, 6B*, 8, 9*, 10*.

Entomology 1*.

Geography 3.

Geology 2, 2L*, 3, 5*.

Naval Science 10.

Paleontology 1.

Physics (1A-1B)*, (1C-1D)*, (2A-2B)*, 4A-4B.

Physiology 1*, 2*.

Zoölogy 1A*, 1B*, 35*.

[†] For information concerning exemption from these requirements apply to the Registrar.

[‡] An examination in Subject A (English Composition) is required of all entrants at the time of their first registration in the University. For further regulations concerning Subject A, see page 38.

[§] Any student who because of lapse of time or other circumstance feels unable to continue successfully a language begun in high school may consult the department of the language concerned regarding the possibility of repeating all or a part of the work for credit. Such credit would count on the 60 units required for the Junior Certificate and on the 120 units required for the degree; but credit is not allowed toward the required 15 units in foreign language for both the high school and college work thus duplicated.

OR

- (b₂) A combination of *Foreign Language* and *Natural Science* to be distributed as follows:

Foreign Language. At least 15 units in not more than two languages, with not less than 6 units in any one language. Each year of high school work with grade B or higher not duplicated by college work will be counted in satisfaction of 3 units of this requirement, without, however, reducing the total number of units required for the Junior Certificate (60) or for the degree (120). Courses given in English by a foreign language department will not be accepted in fulfillment of this requirement. If a new language is begun in the University the student must complete a full year's work in this language; namely, the completion of course 2 with its prerequisites.

Natural Science. At least 9 units chosen from the natural science list set forth above, of which not less than three units must be in courses with laboratory work. Three units of mathematics not offered in satisfaction of (d) 3 below may be substituted for three units of this requirement.

- (c) **Matriculation Mathematics.** Elementary algebra and plane geometry.

If these subjects were not completed in the high school, they may be taken in the University of California Extension Division or Summer Sessions, but will not be counted as a part of the 60 units.

- (d) **Three Year-Courses.** A year-course chosen from each of three of the following seven groups, at least one of which must be chosen from 1, 2 or 3. Only the courses specified below are acceptable.

1. **English, Public Speaking:**

English 1A-1B, 36A-36B

Public Speaking 1A-1B, 2A-2B

English 1A and Public Speaking 1A, English 1A and Public Speaking 2A, English 1A and 40, Public Speaking 1A and 2A.

2. **Foreign language** (courses offered in satisfaction of this requirement may not include any of the work offered as part of the requirement in language under requirement (b) above. No high school work may be counted on this requirement.)

French, any two consecutive courses from the following:

1, 1A, 1B, 2, 3, 3A, 3B, 25A, 25B.

German, any two consecutive courses from the following:

1, 1A, 1B, 2, 3, 3A, 3B, 6A, 6B, 25A, 25B.

Greek, 1A-1B, 101, 102.

Italian, any two consecutive courses from the following:

1, 1A, 1B, 2, 3A, 3B.

Undergraduate Curricula

Latin, any two consecutive courses from the following:

A, B, 1, 2, 5A, 5B, 102, 106.

Spanish, any two consecutive courses from the following:

1, 1A, 1B, 2, 3, 3A, 3B, 20, 25A, 25B.

3. Mathematics:

Any two of the following courses: Mathematics C, 2, 6, 7, 8, 3A, 3B, 4A, 21.

4. Social Sciences:

Anthropology 1A-1B

Economics 1A-1B

Geography 1A-1B, 5A-5B

History 4A-4B, 5A-5B, 8A-8B

Political Science 3A-3B, 31 and 32.

5. Psychology 21, 22.

6. Philosophy:

Philosophy 1A-1B, 2A-2B, 3A-3B.

7. Music and Art (acceptable only for students not majoring in music or art):

Art 1A-1B, 2A-2B, 4A-4B.

Music 1A-1B, 2A-2B, 10A-10B, 11A-11B, 35A-35B.

Summer Session Courses. Summer session courses acceptable in meeting Junior Certificate requirements are listed each year in the bulletins of the summer sessions.

University Extension. Courses in the University of California Extension Division may be offered in satisfaction of Junior Certificate requirements provided they bear the same number as acceptable courses in the regular session. (Equivalent courses bear the prefix "XL".)

Upper Division

Students entering the College from another institution with sixty or more units of advanced standing as determined by the local subcommittee of the Board of Admissions will be permitted to enroll in the Upper Division.

Requirements for Graduation in Addition to Those for the Junior Certificate

The bachelor's (see item 5 below) degree will be granted upon the following conditions:

1. The minimum number of units for the degree is 120. The student must attain at least a C average, that is, he must have obtained at least as many grade points as there are units in the total credit value of all courses undertaken by him in the University of California.
2. He must have been granted the Junior Certificate of the College of Applied Arts.

3. He must have completed the course in American Institutions 101 (or its equivalent).
4. After the receipt of the Junior Certificate, the candidate must have completed at least 50 units of college work, of which at least 42 must be in upper division courses.
5. For the degree of Bachelor of Arts, he must have completed, with a scholarship average of at least one grade point for each unit of credit, a major of 36 units* of coördinated upper division courses approved by the Department of Art or the Department of Music, and must have been recommended by such department.

For the degree of Bachelor of Science, the candidate must have completed, with a scholarship average of at least one grade point per unit, a major of 36 units* of coördinated upper division courses approved by the Department of Home Economics, the Department of Mechanic Arts, or the Department of Physical Education, and must have been recommended by his department.

Each student is required to take at least 6 units in his major (either 3 units each semester or 2 units one semester and 4 units the other) during his last or senior year.

6. The candidate must have completed one minor of not less than 20 units of coördinated courses (aside from courses taken in education), not less than 6 of which shall be in upper division courses.
7. All candidates for the degree must complete the final 24 units of work in the College of Applied Arts. At least 12 units of the final 24 must be taken in fall or spring sessions. The remaining 12 units may be taken in the University of California summer sessions. This regulation applies to students entering this University from other institutions or from the University of California Extension Division, and to students transferring from other colleges of this University.
8. Students who transfer to the University of California at Los Angeles from other institutions or from the University of California Extension Division with senior standing must complete at least 18 units in upper division courses in the College of Applied Arts, including at least 12 units in the major department. This regulation does not apply to students transferring from other colleges within the University.
9. No student is permitted to change his major after the opening of the last semester of his senior year.
10. Any department offering a major in the College of Applied Arts may require from the candidates for the degree a general final examination in the department.

Students who fail in the lower division to attain at least a C average in any department may be denied the privilege of a major in that department.

* Courses in education which have been used in satisfaction of requirements for a teaching credential may not be counted as a part of the 36-unit major.

The major department may submit to the Dean of the College the name of any student who in the opinion of the department cannot profitably continue in the major, together with a statement of the basis for this opinion, and the probable cause of the lack of success. The Dean may permit a change in the major, or may, with the approval of the President, require the student to withdraw from the College.

Requirements for Graduation in the Nursing Curriculum

The degree of Bachelor of Science will be granted, upon recommendation of the Faculty of the College of Applied Arts, to students who have completed, with at least 120 units of work, the following requirements:

1. The student must be a graduate of an approved school of nursing.
2. The student must complete the requirements for the Junior Certificate of the College of Applied Arts or of the College of Letters and Science at Los Angeles, or at Berkeley.
3. The student must complete at least 60 units of such additional work as may be prescribed by the Committee on Curricula in Nursing including the specific courses for the year of specialization in public health nursing as outlined in the Curriculum in Public Health Nursing. Not more than 30 units of work completed in a school of nursing other than that of the University of California will be accepted in partial satisfaction of this requirement.
4. The final year must be spent in study in the academic departments of the University of California (at Los Angeles) subject to the approval of the Committee on Curricula in Nursing.
5. The field work in Public Health Nursing must be completed satisfactorily before the degree is granted.

ORGANIZED MAJORS AND CURRICULA

A major or curriculum consists of 36 units of coördinated upper division courses. The upper division unit requirement may represent courses in one or more departments. The details of the program must be approved by the officer in charge.

Special attention is directed to the courses listed as preparation for the major. In general, it is essential that these courses be completed before upper division major work is undertaken. In any event they are essential requirements for the completion of the major.

The major must, in its entirety, consist (1) of courses taken *in resident instruction* at this or another university (fall, spring, and summer sessions), or (2) of courses with numbers having the prefix XL, XB, or X taken in the University of California Extension Division.

The student must attain an average grade of C (1 grade point for each unit of credit) in all courses offered as part of the major (or curriculum).

Departmental majors are offered in the following fields:

Art

Home Economics

Mechanic Arts

Music

Physical Education for Men

Physical Education for Women.

Detailed statements of the requirements for these majors, as well as the work to be taken in preparation for them, will be found in the departmental announcements in this CATALOGUE, and also in the ANNOUNCEMENT OF THE COLLEGE OF APPLIED ARTS.

GROUP MAJOR IN DANCE

The Group Major in Dance is designed to give students an opportunity to study in an area involving art, English, philosophy, physical education and psychology as related to dance. This curriculum is not planned to train professional dancers, but rather to offer those interested in dance a program of study in contributing fields.

Preparation for the Group Major.—Required: Art 1A-1B, 2A-2B, 48, English 36A-36B, Physical Education 31. Recommended: Biology 1, Chemistry 2A-2B, English 1A-1B, French 1, 2, Music 2A-2B, Philosophy 1A-1B or 2A-2B or 3A-3B, Physiology 1, Psychology 21, 22, Zoölogy 35.

The Group Major.—Required: Art 101 or 183, English 114A-114B, Philosophy 136, Psychology 138 and 171, Physical Education 114A, 120, 133, 135, 149, Dance Composition Workshop, and three units to be selected from Physical Education 104A-104B, 114B, 131, 140, 172, 180, 190, 192A. Recommended minor: either English or art; English 31, 117J, 153, or Art 101 (or 183A), 168A-168B and four units to be chosen on recommendation of the Committee on Group Major in Dance.

CURRICULA FOR NURSES

Combined College and Nursing Curriculum

The University offers through the Colleges of Letters and Science (Los Angeles or Berkeley), the College of Applied Arts (Los Angeles) and the School of Nursing and University Hospital in San Francisco, a curriculum leading to the degree of Bachelor of Science and a Certificate in Nursing. Normally the work of the first two years is taken in the College of Letters and Science or the College of Applied Arts, and the final years in the University of California School of Nursing in San Francisco. For further information concerning the curriculum, see the ANNOUNCEMENT OF THE SCHOOL OF NURSING, which may be obtained from the Director of the School of Nursing, Medical Center, San Francisco, California.

Registered nurses, who have graduated from approved schools of nursing, and who meet the University matriculation requirements may receive the degree of Bachelor of Science in three years upon completing with an average grade of not lower than C, the work for the Junior Certificate in the College of Applied Arts or of the College of Letters and Science at Los Angeles or Berkeley, and a third year of specialization in nursing. In this year the student is offered a choice of electives: public health nursing (which may be taken at Los Angeles or Berkeley), and nursing education (at Berkeley and San Francisco). A Certificate in Public Health Nursing (see below) or in Nursing Education may be obtained with an additional semester of field work.

A suggested program for the two years of academic work at Los Angeles is given below; additional information concerning the Junior Certificate will be found on previous pages. The program for the year of specialization for students who elect public health nursing is given on page 96.

<i>First Academic Year</i>	Units first semester	Units second semester
Subject A (if required) .....	..	..
Physical Education	1	1
Foreign Language	3-5	3-5
English 1A-1B (or Public Speaking 1A-1B)	3	3
Economics 1A-1B	3	3
*Natural Science	3	3
Electives .....	..	..
Normal total	16-16½	16-16½

* Chemistry 1A (5 units) or Chemistry 2A-2B (4-4 units) is recommended.

Second Academic Year

	Units first semester	Units second semester
Physical Education	$\frac{1}{2}$	$\frac{1}{2}$
Psychology 21, 22.....	3	3
Physiology 1, 2.....	5	..
Zoölogy 35 (Anatomy).....	..	3
Bacteriology 1 .....	..	4
Year course	3	3
†Electives .....	..	..
Normal total	16-16 $\frac{1}{2}$	16-16 $\frac{1}{2}$

Nursing Education. The professional curriculum in Nursing Education is open to regular students who have received the Junior Certificate in the College of Letters and Science (Berkeley or Los Angeles) and who have been graduated by schools of nursing approved by the University of California; also to candidates for the B.S. degree who have completed the first four years of the five-year curriculum in nursing. The curriculum requires one year with an additional four months of field practice and leads to the Certificate in Nursing Education. For further information, consult the ANNOUNCEMENT OF THE SCHOOL OF NURSING.

CURRICULUM IN PUBLIC HEALTH NURSING

This curriculum is open to students meeting the matriculation requirements for freshman standing in the University, who are qualified as Registered Nurses (in California) and who have completed Economics 1A-1B and Psychology 21, 22, or approved equivalent courses. To such students the Certificate in Public Health Nursing will be awarded upon satisfaction of the following requirements and approval of the Committee on Curricula in Nursing.

(a) Completion of a total of not less than 36 units with a scholarship average of C, or higher, including

Sociology	5 units
Educational Psychology	3 units
Growth and Development of the Child.....	3 units
Public Health and Preventive Medicine.....	6 units
Principles and Practice in Public Health Nursing.....	3 units
Administration and Organization in Public Health Nursing...	3 units
Elements of Nutrition.....	2 units
Social Case Work.....	2 units
(b) American Institutions	2 units
(c) Continuous field service in public health nursing for a period of sixteen weeks*.....	6 units

Both the program of courses and the plan of field work must be approved by the Committee on Nursing Curricula.

† Inclusion of Sociology 30A-30B is recommended.

* This course is a requirement for the degree of Bachelor of Science for students in the Public Health Nursing Curriculum but does not count toward the minimum unit requirement for the degree.

The following program is required for the year of study:

Year of Specialization in Public Health Nursing

(For Registered Nurses)

	Units first semester	Units second semester
American Institutions	2	..
Sociology 120, 181.....	3	2
Psychology 110	3	..
Education 111 .....	..	3
Public Health 101A-101b	3	3
Public Health Nursing 418, 419	3	3
Public Health Nursing 402.....	..	2
Home Economics 32.....	2	..
Electives .....	..	3
Total	16	16

For one semester of the following year there will be given field work in Public Health Nursing, to carry 6 units of credit.

Satisfactory completion of the three-semester program by a registered nurse, who has graduated from an approved school of nursing, and who in addition has met the requirements for the Junior Certificate in the College of Applied Arts will lead to the bachelor's degree. It should be noted in connection with lower division work that the University accords no credit for "semiprofessional" or "terminal" courses.

HONORS

Honorable Mention with the Junior Certificate.—Honorable mention shall be granted with junior standing to students who attain at least an average of two grade points for each unit of work undertaken. Such students shall remain in honors status during the remainder of the undergraduate course unless the average for all work at the end of any semester falls below two grade points for each unit undertaken.

The list of students who receive Honorable Mention with the Junior Certificate shall be sent to the chairmen of departments.

Honors Students in the Upper Division.—The honors list shall include the names of:

- Students who received Honorable Mention with the Junior Certificate and who are in their first semester of the upper division.
- Upper division students who have an average of at least two grade points for each unit undertaken in all undergraduate work in the University of California.
- Other upper division students specially approved for listing in the honors status by the Committee on Honors, either upon recommendation made to the Committee by departments of instruction, or upon such other basis as the Committee may determine.

Honors with the Bachelor's Degree

- (a) Honors shall be granted at graduation only to students who have completed the major with distinction, and who have a general record satisfactory to the Committee on Honors. Departmental recommendations shall be reported to the Registrar.
- (b) Students, who in the judgment of their departments, display marked superiority in their major subject, may be recommended for the special distinction of Highest Honors. Departmental recommendations shall be reported to the Registrar.
- (c) The Committee on Honors is empowered at its discretion to recommend to the Committee on Graduation Matters that Honors be granted only to students who have attained a B average or higher in the major, or in the upper division, or in all undergraduate work.
- (d) A list of students to whom Honors or Highest Honors in the various departments have been awarded shall be published in the COMMENCEMENT PROGRAMME.

PREPARATION FOR VARIOUS PROFESSIONAL CURRICULA

Certain courses given at the University of California at Los Angeles may be used as preparatory to the professional colleges and schools of the University in Berkeley and in San Francisco.

PREENGINEERING CURRICULA

CIVIL ENGINEERING

<i>Freshman</i>	Units first semester	Units second semester
Subject A (if required).....	..	..
§Military Science 1A-1B.....	1½	1½
Physical Education	½	½
Mathematics 8, 3AB.....	3	6
Physics 1A-1B	3	3
Chemistry 1A-1B	5	5
Mechanical Engineering 2.....	3	..
Total	16	16

Sophomores

§Military Science 2A-2B.....	1½	1½
Mathematics 4A-4B	3	3
Physical Education	½	½
Astronomy 3.....	..	1
Civil Engineering 8.....	..	2
Physics 1C-1D	3	3
Geology 5.....	..	4
Civil Engineering 1LA-1LB	2	2
Civil Engineering 1FA-1FB	1	1
Civil Engineering 3 (Summer Session).....	..	(3)
†Mechanical Engineering 1.....	3	..
†Chemistry 8	3	..
Elective .....	..	..
	*	*

* Normal total, 16 units.

§ Students in the Naval Unit will substitute Naval Science 1A-1B (freshman year), 2A-2B (sophomore year), 1½ units per semester. Such students must also complete Naval Science 9, 2 units, and 10, 2 units, during the freshman and sophomore years. For these students Naval Science 10 replaces Astronomy 3.

† Mechanical Engineering 1 is required only in the Transportation and Irrigation Engineering groups; Chemistry 8 is required only in the Sanitary and Municipal Engineering group.

MECHANICAL, ELECTRICAL, AND ‡AGRICULTURAL ENGINEERING

<i>Freshman</i>	Units first semester	Units second semester
Subject A (if required) .....	..	..
Military Science 1A-1B or Naval Science 1A-1B	1½	1½
Physical Education	½	½
Mathematics 8, 3AB	3	6
Physics 1A-1B	3	3
Chemistry 1A-1B	5	5
Civil Engineering 1LA	2	..
Civil Engineering 1FA	1	..
	<hr/> 16	<hr/> 16

Sophomore

Military Science 2A-2B or Naval Science 2A-2B	1½	1½
Physical Education	½	½
Mathematics 4AB	6	..
Mathematics 10AB .....	..	4
Physics 1C-1D	3	3
Civil Engineering 8	2	..
Mechanical Engineering 10B .....	..	2
Mechanical Engineering 2, 6	3	3
Electives .....	..	..
	<hr/> *	<hr/> *

PREMINING

Students in the College of Mining may elect one of four curricula: (1) Mining Engineering; (2) Metallurgy; (3) Economic Geology; and (4) Petroleum Engineering. Each is a four-year curriculum and leads to the degree of Bachelor of Science with the completion of 139 units of work.

These four curricula have a common requirement for the first year, after which the student is expected to elect the one in which he wishes to specialize. In the second year the courses listed at the beginning of the column are common requirements for all students in the College of Mining. In addition to these, each student is required to take the courses listed under his particular option.

* Normal total, 16 units.

‡ Students intending to major in Agricultural Engineering should omit Civil Engineering 8 and Mechanical Engineering 10B, and adjust their programs so as to include Economics 1A-1B and Geology 2.

Undergraduate Curricula

	<i>Freshman</i>	Units first semester	Units second semester
Subject A (if required) .....	..	..	..
§ Military Science 1A-1B	1½	1½	1½
Physical Education	½	½	½
Mathematics 8, 3AB	3	6	6
Chemistry 1A-1B	5	5	5
* Mining 5A-5B	(1)	(1)	(1)
Physics 1A-1B	3	3	3
Geology 2, 2L	3	1	1
	—	—	—
	16	17	17

	<i>Sophomore</i>		
§ Military Science 2A-2B	1½	1½	1½
Physical Education	½	½	½
Mathematics 4A-4B	3	3	3
Physics 1C-1D	3	3	3
Mineralogy 3A-3B	3	3	3
Civil Engineering 1LA-1LB	2	2	2
Civil Engineering 1FA-1FB	1	1	1
Civil Engineering 3 (Summer Session) .....	..	(3)	(3)
Courses listed in one of the options below .....	..	..	..
	—	—	—
	‡	‡	‡

MINING

† Metallurgy 2 .....	..	(3)	(3)
† Mining 1A-1B	(3)	..	..
Mechanical Engineering 1	3	..	..

METALLURGY

Chemistry 6A-6B	3	3	3
Mechanical Engineering 1	3	..	..

ECONOMIC GEOLOGY

Chemistry 6A-6B	3	3	3
Paleontology 1	2	..	..

PETROLEUM ENGINEERING

Chemistry 6A	3	..	..
Mechanical Engineering 1 .....	..	3	3
Mechanical Engineering 2 .....	..	3	3

§ For military science, students in the Naval Unit will substitute Naval Science 1A-1B (freshman year), 2A-2B (sophomore year), 1½ units per semester. These students must also complete Naval Science 9, 2 units, and 10, 2 units, during the freshman and sophomore years.

* Mechanical Engineering D is the nearest substitute for Mining 5A-5B offered at the University of California at Los Angeles.

‡ Normal total, 17 to 18 units.

† Mining 1A-1B and Metallurgy 2 are not offered at the University of California at Los Angeles. It is suggested that Chemistry 6A-6B be taken.

PREOPTOMETRY

The University offers a four-year program with a major in physics-optometry, leading to the degree of Bachelor of Arts and the Certificate in Optometry. The first two years may be taken at Los Angeles; the last two must be taken at Berkeley. The following curriculum outline should be followed, with such choice of electives as will meet the requirement for the Junior Certificate in the College of Letters and Science:

<i>First Year</i>	Units first semester	Units second semester
Subject A (English composition) .....	..	..
Military Science or Naval Science (men)	1½	1½
Physical Education	½	½
Chemistry 1A-1B	5	5
Public Speaking 1A-1B	3	3
Physics 2A-2B	4	4
Mathematics 8, C	3	2
Normal total	17	16

Second Year

Military Science or Naval Science (men)	1½	1½
Physical Education	½	½
Mathematics 3A .....	..	3
Psychology 21, 22	3	3
Physiology 1, 2	5	..
Foreign Language	5	5
Electives .....	..	..
Normal total	16	16

PREPHARMACY CURRICULUM

The College of Pharmacy offers a four-year curriculum leading to the degree of Bachelor of Science in Pharmacy.

The first year of the four-year curriculum may be taken in the University at Berkeley, Davis, or Los Angeles, or in another institution of approved standing. The courses of the final three years are given in the College of Pharmacy in San Francisco (with one exception—Physics 3A-3B is taken in Berkeley). Students who plan to take the first year's work in an institution other than the University of California, should consult the ANNOUNCEMENT OF THE COLLEGE OF PHARMACY in order to make certain that the requirements will be fulfilled.

Matriculation requirements. The requirements for admission to the four-year curriculum are the same as the requirements for admission to the academic departments of the University as stated in this Catalogue. The minimum age at which applicants will be admitted to this College is sixteen years. It is

recommended that applicants present credit in Subject A (English Composition); English, 3 units; history, 1 unit; mathematics (algebra and plane geometry), 2 or 2½ units; chemistry, 1 unit; physics, 1 unit, or mathematics (including trigonometry), 3 units; German or French, 2 units; Latin, 2 units; biology, 1 unit. In addition a year of freehand drawing is recommended.

Graduation. The degree of Bachelor of Science in Pharmacy is granted upon completion of four years of residence and 129 units of credit. The student must also have obtained as many grade points as there are units of credit in all courses undertaken. For other requirements, see the ANNOUNCEMENT OF THE COLLEGE OF PHARMACY, which may be had by addressing the Dean's Office, University of California College of Pharmacy, Medical Center, San Francisco, California.

Program of First Year

(At Los Angeles)

	Units first semester	Units second semester
Subject A (if required) .....	..	..
Physical Education	½	½
Military Science (for men)	1½	1½
Chemistry 1A-1B	5	5
Botany 1A-1B	4	4
Mathematics 8, C†	3	2†
‡English 1A-1B or Public Speaking 1A-1B	3	3
Electives .....	..	..
Normal total	17	16

† Required only of students who do not offer trigonometry for matriculation.

‡ German may be substituted for English 1A-1B or Public Speaking 1A-1B provided German has not been taken in high school. Students are advised to take two years of German in high school when possible.

THE GRADUATE DIVISION

SOUTHERN SECTION

THE UNIVERSITY OF CALIFORNIA offers in the Graduate Division, Southern Section, advanced study leading to the degrees of Master of Arts, Master of Science, and Doctor of Philosophy, and to the certificates of completion for the general secondary and junior college teaching credentials. For more complete information concerning the work of the Division, and concerning the requirements for higher degrees, consult the ANNOUNCEMENT OF THE GRADUATE DIVISION, SOUTHERN SECTION, which may be had upon application to the Registrar of the University of California, Los Angeles, California.

DEFINITION OF ACADEMIC RESIDENCE

Every regular graduate student must register for, attend, and complete upper division courses (courses in the 100 series) or graduate courses (200 series) amounting to at least 4 units a week for each semester, in order to satisfy the minimum residence requirement in candidacy for any higher degree or certificate issued by the University. The corresponding minimum program for a summer session (or intersession) is 2 units.

STUDY-LIST LIMITS

In order to counteract the tendency to accumulate credits by sacrificing thoroughness and the high scholarly attainment which comes only through intense application, the University restricts the number of units in which a student may enroll.

A graduate student in a regular session is limited to 16 units when he takes only upper division courses, to 12 units when he takes only graduate courses, and to a total made up in the proper proportion of 12 to 16—as for example, 6 graduate and 8 upper division—when he takes both upper division and graduate courses.

Teaching assistants and others employed approximately on half time are limited to three-fourths of these totals. Four units of upper division or graduate courses is the program limit for graduate students engaged on full time in other occupations.

REQUIREMENTS FOR THE MASTER'S DEGREE

Preparation. The candidate's preliminary training 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. In the University of California, the bachelor's degree indicates eight years of systematic high school and college work distributed according to the University's requirements for the particular college or course in which the degree is offered.

If the candidate's undergraduate course has been deficient in breadth of fundamental training and fails to provide a proper foundation for advanced

work in the department or departments of his choice, it probably will be necessary for him to take specified undergraduate courses before he may be admitted to regular graduate status.

The degree. The Master of Arts degree is awarded for the completion of requirements in any of the major subjects of graduate study at the University of California at Los Angeles except agriculture, business administration, and home economics, in which the degree of Master of Science is given. Students in mathematics or science, however, who have fulfilled the requirements for the Bachelor of Science degree, as well as those for the master's degree, may be awarded the degree of Master of Science.

Major fields. The major fields for the master's degree are:

Agriculture (Subtropical Horticulture)	French	Music
Applied Physics	Geography	*Oceanography
Botany	Geology	Philosophy
Business Administration	German	Physical Education
Chemistry	History	Physics
Economics	Home Economics	Political Science
Education	Latin	Psychology
English	Mathematics	Spanish
	Microbiology	Zoölogy

Application for advancement to candidacy. Advancement to candidacy must occur not later than one semester prior to the completion of requirements for the degree. Students are warned that such advancement is not automatic, but requires a formal application distinct from registration. A date one week after the filing of study lists is set each semester for application for candidacy by those who hope to qualify for degrees at the close of that session.

Amount and distribution of work. A student must pursue one of the following plans at the option of the department of his major field for fulfillment of the requirements for the master's degree. Under either plan all requirements for the degree must be satisfied within a calendar year from the time of completion of the course requirement.

Plan I: Thesis Plan. At least 20 semester units and a thesis are required. The units must be taken in graduate or upper division undergraduate courses, and at least 8 of the 20 must be in 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 not be less than half of the work presented for the degree. After these general and the special departmental requirements are met, the student may take any course in the 100 or 200 series, although he is subject to his major department's guidance in the distribution of his work among the departments. In addition, the major department may require any examination which seems necessary to test the candidate's knowledge of his field.

* At Scripps Institution of Oceanography, La Jolla.

Plan II: Comprehensive Examination Plan. Twenty-four units of upper division and graduate courses are required, of which at least 12 units must be in strictly graduate courses in the major subject. After these general and the special departmental requirements are met, the student may take any course in the 100 or 200 series, although he is subject to his major department's guidance in the distribution of his work among the departments. A comprehensive final examination in the major subject, its kind and conduct to be determined by the department concerned, is taken by each candidate.

Scholarship. Only courses in which the student is assigned grades A, B, or C are counted in satisfaction of the requirements for the master's degree. Furthermore, the student must maintain an average of two grade points a unit in those courses and also in all others elected at the University subsequent to the bachelor's degree; this includes upper division or lower division courses taken in unclassified status. Three grade points for each unit of credit are given to grade A, two points to grade B, one point to grade C, none to grade D, and minus one point each to grades E and F.

Foreign Language. A reading knowledge of a modern foreign language (other than that of the major subject, if the major is a foreign language) is required of each candidate for the master's degree; this requirement must be satisfied before the student is admitted to candidacy. The department of the candidate's major must approve the language selected. In specific instances the Dean of the Graduate Division may authorize the substitution of Latin for a modern language upon the recommendation of the department of the student's major. The examination is to be conducted by the language department in question.

Residence. The minimum period of academic residence required is one year, of which at least one semester must be spent in regular session at Los Angeles. The requirement may be satisfied in part by residence in the University's summer sessions, each of which counts as one-fourth of a year, or in the Graduate Division, Northern Section.

A student is not regarded as in residence unless he is actually attending, in a regular session, regularly authorized university exercises amounting to at least 4 units of upper division or graduate work, or at least 2 units of similar work in a summer session. Irrespective of the total credit obtained in summer sessions, not less than 4 units of the required graduate courses must be earned in a regular semester at Los Angeles.

Ordinarily all of the work for the master's degree is expected to be done in residence, but a graduate of this University or any other approved candidate may complete part of his work in absence, subject to the approval of the Graduate Council, the regulations on study in absence, and the minimum residence requirement of one year.

The thesis. The thesis is the student's report, in as brief a form as possible, of the results of his original investigation. Although the problems for master's

degree candidates are of limited scope, they must be attacked in the same systematic and scholarly way as problems of greater magnitude, as, for example, one under investigation by a candidate for the doctor's degree. Before beginning his work on a thesis, the student must receive the approval of his major department and the instructor concerned, on the subject and general plan of investigation. Detailed instructions concerning the physical form in which theses must be submitted may be had upon application to the Dean of the Graduate Division.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Students who desire to become candidates for the doctor's degree should bear in mind that the degree of Doctor of Philosophy is granted by the University of California not for the fulfillment of technical requirements alone, such as residence and the completion of fundamental courses within a chosen field, but more for the student's general grasp of the subject matter of a large field of study and his distinguished attainments within it, for his critical ability, his power to analyze problems and to coördinate and correlate the data from allied fields to serve the progress of ideas. In addition, he must demonstrate, through his dissertation, the ability to make an original contribution to the knowledge of his chosen field, and throughout his career as a graduate student must prove himself capable of working independently.

Fields of study for 1940-41. The fields of study open to candidates for the degree of Doctor of Philosophy are chemistry, English, geology, history, horticultural science, mathematics, oceanography, philosophy, physical-biological science, physics, political science, psychology, Romance philology, and zoölogy. Other fields and departments will be added as circumstances warrant.

Preparation. A prospective candidate for this degree must hold a bachelor's degree from one of the colleges of this University, based on a curriculum that includes the requirements for full graduate status in the department of his major subject, or must have pursued successfully an equivalent course of study.

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

Foreign language. A reading knowledge of French and German is required of every candidate for the Ph.D. degree and this requirement must be satisfied before he takes the qualifying examinations for advancement to candidacy. In special cases, with the consent of the department of the candidate's major and the Dean of the Graduate Division, another language may be substituted for one of those mentioned, provided the language selected has a clear bearing on the candidate's field of research. The examination is to be conducted by the language department in question, and certification by the language department.

of the successful completion of this examination must be attached to the student's application for permission to take the qualifying examinations for the Ph.D. degree.

Program of study. The student's program of study must be approved by the Graduate Council, must embrace a field of investigation previously approved by his department or interdepartment group, and extend over the full period of study. However, recommendation for the degree is based on the attainments of the candidate rather than duration of his study, and ordinarily not less than three full years will be needed to finish the work.

Notice of Ph.D. degree candidacy. As early as possible, preferably at the end of the first semester of graduate study, the student should declare his intention of proceeding to candidacy for the Ph.D. degree. This notification should be given to the department or interdepartment group of the student's field of study and to the Dean; forms for the purpose may be had at the office of the Dean of the Graduate Division.

Guidance committees. On receiving such notification an informal guidance committee will be appointed by the department or interdepartment group of the student's field of study to assist the student in making out his program and in preparing him for the qualifying examinations. This committee must give its written approval to the department before the student is permitted to take these examinations and it ceases to exist as soon as he has passed the qualifying examinations.

Qualifying examinations. Before he is admitted to candidacy, the student must pass a series of qualifying examinations, both written and oral. The written examinations may be administered by the department of the student's field of study, but the oral examination must be conducted by his doctoral committee (see below). The qualifying oral examination is never open to the public.

Doctoral committees. Upon nomination of the department or interdepartment group of the student's field of study a doctoral committee will be appointed by the Graduate Council. This committee conducts the qualifying oral examination (in some cases also the written examinations), supervises and passes upon the student's dissertation, and conducts the final oral examination. For this final oral examination additional members may be appointed to the committee by the Dean of the Graduate Division in consultation with the department.

Advancement to candidacy. The candidate must file his application, properly approved by the committee conducting the qualifying examinations, and must report in person to the Dean of the Graduate Division who determines whether all formal requirements have been met.

A minimum period of resident study approximately equivalent to two semesters must intervene between the date of formal advancement to candidacy and the date of the final examination.

The dissertation. A dissertation on a subject chosen by the candidate, bearing on his principal study and showing his ability to make independent investigation, is required of every candidate for the degree. In its preparation the candidate is guided by his doctoral committee, which also passes on the merits of the completed dissertation, and the approval of this committee, as well as that of the Graduate Council, is required before he is recommended for the degree. Special emphasis is laid on this requirement. The degree is never given merely for the faithful completion of a course of study, however extensive.

The dissertation must be typewritten or printed. Specific instructions concerning the form may be obtained from the Dean of the Graduate Division. Two copies of the approved dissertation (if it is typewritten, the original and the first carbon) must be filed with the Dean two weeks before the proposed date of the final examinations, for later deposition in the University Library. In certain instances, however, the Graduate Council may authorize the final examination to be taken before the dissertation is accepted.

Final examination. The candidate's final examination is conducted by his doctoral committee. The examination is oral and deals primarily with the relations of the dissertation to the general field in which its subject lies. Admission to the final examination may be restricted to committee members, members of the Academic Senate, and guests of equivalent academic rank from other institutions.

THE BACHELOR'S DEGREE FOR GRADUATE STUDENTS

Graduate students may be recommended as candidates for the degree of Bachelor of Arts or Bachelor of Science on completing at least 24 units during one or more years of attendance upon such courses of instruction as are regularly pursued by seniors in the University of California, and on performing such additional work and passing such examinations as may appear necessary to the Executive Committee of the appropriate college. Candidates for a bachelor's degree may register as graduate students with the permission of the Graduate Council, but their course of study will be subject to the jurisdiction of the college concerned, which college shall set requirements and shall also make recommendation for the degree. In all cases candidates must satisfy the requirement of 36 units of advanced studies in the College of Letters and Science, or their equivalent in the colleges of applied science, not all of which, however, need have been completed while in residence at this University. No person will be recommended for a bachelor's degree who shall not have satisfied substantially, at the time of procedure to the degree, the conditions imposed upon undergraduate students at the University of California.

SCHOOL OF EDUCATION

LOS ANGELES

THE SCHOOL OF EDUCATION, established on the Los Angeles campus July 1, 1939, offers professional curricula to students preparing for teaching service in elementary and secondary schools, and for experienced teachers desiring preparation for educational administration, research, or other specialized phases of public school education. The School of Education makes provision for all types of teacher training formerly offered in the Teachers College, which was discontinued on June 30, 1939.*

Applicants for admission to the School of Education must be students in good standing in the University of California, must have completed the requirements for the Junior Certificate in one of the colleges of the University, or the equivalent thereof, and must be approved by a physician of the University of California as having met the health requirements of the State Board of Education.

Although admission to curricula of the School of Education is contingent upon the attainment of full junior standing, as defined above, representatives of the School will be glad to advise students interested in the most effective preparation for various teaching fields, during their freshman and sophomore years. All such students are urged to consult the Dean of the School of Education as early as possible in their academic careers.

The School of Education offers curricula leading to certificates of completion and state credentials authorizing service in the following fields:

1. Kindergarten-Primary
2. Elementary
3. Junior High School
4. Special Secondary in the fields of:
 - a. Art
 - b. Business Education
 - c. Homemaking
 - d. Industrial Arts
 - e. Music
 - f. Physical Education
 - g. Trade and Industrial Education
5. General Secondary
6. Junior College
7. Elementary School Administration
8. Secondary School Administration.

* Students holding teaching credentials issued by the Los Angeles State Normal School or by the Teachers College of the University of California, and students registered in the Teachers College who have completed at least 12 units in regular sessions prior to July 1, 1939, may qualify for the degree, Bachelor of Education, on the basis of the requirements in effect during the academic year 1938-39, provided that these requirements are completed prior to September 15, 1948. After that date the degree Bachelor of Education will not be awarded.

It is no longer possible for new students to enroll in the Teachers College. Students planning to prepare for kindergarten-primary or elementary school teaching may enroll either in the College of Letters and Science, or if their major interests lie in the fields of art, homemaking, industrial arts, music or physical education, in the College of Applied Arts. Those enrolling in the College of Letters and Science should choose the general major, or a major related to the curriculum of the elementary schools.

Students desiring to prepare for the special secondary credential, which is limited to one field, should enroll in the College of Applied Arts if the proposed major is art, homemaking, industrial arts, music, or physical education. Those desiring the special secondary credential in Business Education may register either in the College of Business Administration, or the College of Letters and Science with a major in economics.

Candidates for the general secondary credential may enroll for their undergraduate work in the College of Letters and Science, the College of Agriculture, the College of Business Administration, or the College of Applied Arts (if the major is art, homemaking, music, or physical education).

It is highly desirable that all students preparing for teaching consult the Credentials Counselor of the School of Education as early as possible in their academic careers, in order that their programs of study may be efficiently planned.

A complete statement of curricula, requirements, and procedures in the School of Education will be found in the ANNOUNCEMENT OF THE SCHOOL OF EDUCATION, LOS ANGELES, which may be obtained at the office of the Dean, 231 Education Building on the Los Angeles campus, or by mail upon application to the Registrar of the University of California, Los Angeles, California.

ANNOUNCEMENT OF COURSES FOR THE ACADEMIC YEAR 1940-41

CLASSIFICATION AND NUMBERING

COURSES ARE CLASSIFIED and numbered as follows:

Undergraduate courses. These are of two kinds, lower division and upper division.

A lower division course (numbered 1-49, or sometimes indicated by a letter if the subject is one usually given in high school) is open to freshmen and sophomores, and does not count as upper division work in any department.

An upper division course (numbered 100-199) is advanced study in a field which has been pursued in the lower division, or elementary work in a subject of sufficient difficulty to require the maturity of upper division students.

Graduate courses (numbered 200-299) are open only to students accepted in regular graduate status. As a condition for enrollment in a graduate course the student must submit to the instructor in charge of the course evidence of satisfactory 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. Students in unclassified graduate status are not admitted to graduate courses.

Teachers' courses (numbered 300-399). The designation 300-399 denotes highly specialized courses dealing with methods of teaching specific subjects. Such courses may not be offered in partial fulfillment of the requirements for the major in education, but are acceptable toward academic degrees within the limitations prescribed by the various colleges.

ABBREVIATIONS

In the following list of courses, the credit value of each course in semester units is indicated by a number in parentheses after the title. A unit of registration is one hour of the student's time at the University, weekly, during one semester, in lecture or recitation, together with the time necessary in preparation therefor; or a longer time in laboratory or other exercises not requiring preparation. The session in which the course is given is shown by Roman numerals: I for the first semester, and II for the second semester. A course given throughout the year is designated: Yr. The assignment of hours is made in the SCHEDULE OF CLASSES AND DIRECTORY to be obtained at the time of registration.

Year courses. A course given throughout the year is designated by a double number. Economics 1A-1B is an example. Each half of the course constitutes a semester's work. The first half is prerequisite to the second unless there is an explicit statement to the contrary. The instructor makes a final report on the student's work at the end of each semester. Unless otherwise noted, the student may take the first half only and receive final credit for it.

AGRICULTURE

WILLIAM H. CHANDLER, Ph.D., Professor of Horticulture (Chairman of the Department).

ROBERT W. HODGSON, M.S., Professor of Subtropical Horticulture.

RALPH H. SMITH, Ph.D., Professor of Entomology.

SIDNEY H. CAMERON, Ph.D., Associate Professor of Subtropical Horticulture.

FREDERICK F. HALMA, Ph.D., Associate Professor of Subtropical Horticulture.

MARTIN R. HUBERTY, Engr., Associate Professor of Irrigation.

DAVID APPLEMAN, Ph.D., Assistant Professor of Plant Nutrition.

KENNETH F. BAKER, Ph.D., Assistant Professor of Plant Pathology.

PIERRE A. MILLER, M.S., Assistant Professor of Plant Pathology.

ARTHUR F. PILLSBURY, Engr., Assistant Professor of Irrigation.

JACOB B. BIALE, Ph.D., Instructor in Subtropical Horticulture.

RICHARD M. BOHART, Ph.D., Instructor in Entomology.

OTIS F. CURTIS, JR., M.S., Instructor in Floriculture.

WALTER E. LAMMERTS, Ph.D., Instructor in Ornamental Horticulture.

GUSTAV A. L. MEHLQUIST, Ph.D., Instructor in Floriculture.

ROY J. SMITH, Ph.D., Instructor in Agricultural Economics.

ELMER R. EGGERS, B.S., Associate in Subtropical Horticulture.

Letters and Science List.—Agricultural Economics 104, Entomology 1, 134, Plant Pathology 120, Soil Science 110. For regulations governing this list see page 67.

Upper Division Courses.—All upper division courses announced by this department presuppose at least junior standing in the College of Agriculture. Juniors and seniors in other colleges may elect such courses in the Department of Agriculture as they are qualified to pursue.

Preparation for the Major in Subtropical Horticulture.—Horticulture 2 or the equivalent, and the requirements in the Plant Science Curriculum (see pages 84, 85 of this Catalogue, or the Prospectus of the College of Agriculture).

The Major in Subtropical Horticulture.—Twelve units of upper division courses. Inclusion of Horticulture 100, Subtropical Horticulture 101, 102, is recommended.

Preparation for Other Majors in the Plant Science Curriculum.—See the PROSPECTUS OF THE COLLEGE OF AGRICULTURE and consult the appropriate adviser for students in Agriculture.

Laboratory Fees.—Entomology 1, 134, \$2; Plant Pathology 120, 130, \$2; Soil Science 113, \$10; Horticulture 100, \$3; Subtropical Horticulture 101, \$2.

AGRICULTURAL ECONOMICS

UPPER DIVISION COURSES

101A. Principles of Marketing Agricultural Products. (3) I.

Prerequisite: Economics 1A-1B.

Mr. Roy J. Smith

Nature of the problems, types of marketing agencies, principal marketing functions and their combination, marketing costs and margins, price quotations, and speculation in farm products. Government in its relation to marketing; consideration of proposals for improvement.

104. Agricultural Economics. (3) I.

Mr. Roy J. Smith

Prerequisite: Economics 1A-1B.

A study of the application of the principles of economics to the problems of agricultural production.

118. Farm Management: Business Organization. (3) II. Mr. Roy J. Smith

The place, purpose and scope of organization; community and farm basis; farm enterprise; selecting farms; planning and equipping; capital needs; earnings.

ENTOMOLOGY**LOWER DIVISION COURSE****1. General Entomology. (4) II.**

Mr. Bohart

Lectures, three hours; laboratory, three hours. Fee, \$2.

Recommended: Zoölogy 1A.

A general course designed to provide the student with a well-rounded knowledge of entomology, including the fundamental facts and principles of insect life and control.

UPPER DIVISION COURSES**134. Insects Affecting Subtropical Fruit Plants. (4) II. Mr. Ralph H. Smith**

Lectures, two hours; laboratory, six hours. Fee, \$2.

Prerequisite: Zoölogy 1A; Entomology 1 or 124 (Berkeley or Davis) recommended.

Specialized study of the biology, damage caused by, and control of the more important insects affecting citrus and other subtropical fruit plants.

199A.-199B. Special Study for Advanced Undergraduates. (2-4; 2-4) Yr.

Mr. Ralph H. Smith, Mr. Bohart

Prerequisite: senior standing and the consent of the instructor.

HORTICULTURE**LOWER DIVISION COURSES****2. Elements of Fruit Production. (3) I.**

Mr. Hodgson

Lectures, three hours.

Prerequisite: Botany 1A-1B or equivalent.

This course is equivalent to Pomology 2A, given at Berkeley and at Davis.

The principles and practices of fruit growing, with special reference to subtropical regions. The climatic, soil, and moisture requirements and adaptations of fruit trees; selection of site, propagation, planting, orchard management practices, harvesting, and preparation for market. Survey of the industry in the United States.

3. Orchard and Nursery Practices. (1) II.

Mr. Eggers

Laboratory, three hours.

Prerequisite: course 2 or the equivalent.

A laboratory course in orchard and nursery practice: propagation, planting, training, pruning, fruit-thinning, and other orchard operations. Designed to supplement course 2.

10. Plant Propagation. (2) II.

Mr. Cameron

Lecture, one hour; laboratory, three hours.

Prerequisite: Botany 1A-1B and course 2, or the equivalent.

The principles of plant propagation, with special reference to horticultural plants.

UPPER DIVISION COURSES

- 100. Systematic Pomology. (4) I.** Mr. Halma
 Lectures, two hours; laboratory, six hours. Fee, \$3.
 Prerequisite: course 2, or the equivalent.
 The botanical classification and relationships of the principal fruits; horticultural races and groups; growth and bearing habits; bud and fruit morphology; varietal characters.
- 104. Advanced Horticulture. (3) II.** Mr. Cameron
 Lectures and discussions, three hours.
 Prerequisite: course 2 or the equivalent, Botany 7 or the equivalent, course 100, and Subtropical Horticulture 102.
 An analysis of the knowledge concerning the responses of fruit trees to environmental and cultural influences, with special reference to subtropical regions.
- 108. Fruit Physiology and Storage Problems. (2) I.** Mr. Biale
 Lectures and discussions, two hours.
 Prerequisite: the consent of the instructor.
 Ripening processes of fruit on the tree; maturity standards and tests; ripening and respiration as affected by ethylene gas treatment; chemical and physiological changes at low temperatures; cold storage and refrigerated gas storage; rôle of volatile substances; differences in species and varietal responses.
- 199A-199B. Special Study for Advanced Undergraduates. (2-4; 2-4) Yr.** The Staff
 Prerequisite: senior standing and the consent of the instructor.

GRADUATE COURSES

- 200. Research Methods in Horticulture. (4) I.** Mr. Cameron
 Lectures, two hours; laboratory, six hours.
 Prerequisite: consent of the instructor.
 Methods and techniques employed in the planning and conduct of horticultural research and in the analysis of the resulting data.
- 255A-255B. Seminar in Horticulture. (1-1) Yr.** Mr. Biale in charge
- 281A-281B. Research in Horticulture. (1-6; 1-6) Yr.** The Staff

IRRIGATION

UPPER DIVISION COURSE

- 110. Principles of Irrigation. (4) I.** Mr. Huberty
 Lectures, three hours; laboratory, three hours.
 Prerequisite: Physics 2A-2B or the equivalent.
 Irrigation as a factor in agriculture; effect of soil characteristics upon the movement and storage of water; the availability of soil moisture to plant growth; development of the farm irrigation water supply. To fill a need of subtropical horticulture majors, some time is spent on the study of the origin, evolution, characteristics, classification, and conservation of soils.

PLANT PATHOLOGY
UPPER DIVISION COURSES

- 120. Plant Diseases. (4) I.** Mr. Miller
Lectures, two hours; laboratory, six hours. Fee, \$2.
Prerequisite: Botany 1A-1B or the equivalent, and Bacteriology 1.
A general fundamental course treating of the nature, cause, and control of plant diseases.
- 130. Diseases of Subtropical Fruit Plants. (4) I.** Mr. Miller
Lectures, three hours; laboratory, three hours. Fee, \$2.
Prerequisite: Botany 1A-1B or the equivalent, and Bacteriology 1.
Course 120 is recommended.
The pathology of citrus and other subtropical fruit plants. The distribution, economic importance, nature, cause, and control of the principal diseases.
- 199A-199B. Special Study for Advanced Undergraduates. (2-4; 2-4) Yr.** Mr. Miller
Prerequisite: senior standing and the consent of the instructor.

SOIL SCIENCE
UPPER DIVISION COURSES

- 110. The Soil as a Medium for Plant Growth. (4) II.** Mr. Appleman
Lectures, three hours; one additional period to be arranged.
Prerequisite: Chemistry 1A-1B, 8.
Chemical composition of soils; factors determining productivity; soil and plant interrelations; the cause and effect of the soil's reaction, with particular reference to acid and alkali soils; current theory of soil solution.
- 113. Soil Chemistry in Relation to Plant Growth. (3) II.** Mr. Appleman
Lecture, one hour; laboratory, six hours. Fee, \$10.
Prerequisite: Chemistry 1A-1B, 6A; course 110 (may be taken concurrently).
Nutritional requirements of plants; soil and plant interrelations; theory of soil solutions; phenomenon of base exchange.
- 199A-199B. Special Study for Advanced Undergraduates. (2-4; 2-4) Yr.** Mr. Huberty, Mr. Appleman, Mr. Pillsbury
Prerequisite: senior standing and the consent of the instructor.

SUBTROPICAL HORTICULTURE
UPPER DIVISION COURSES

- 101. Citriculture. (4) II.** Mr. Hodgson
Lectures, three hours; laboratory, three hours; four Saturday field trips.
Fee, \$2.
Prerequisite: Chemistry 1A-1B, Horticulture 2 or the equivalent.
The characteristics of the citrus fruits and their responses to environmental influences and cultural practice; the economics of the citrus fruit industry.

102. Major Subtropical Fruits Other Than Citrus. (3) I.

Mr. Hodgson, Mr. Halma

Lectures, three hours; three Saturday field trips.

Prerequisite: Horticulture 2 or the equivalent.

Offered in alternate years.

A survey of the knowledge concerning the requirements and responses of the major subtropical fruit plants other than *Citrus*; the economics of their industries. The fruits considered will include the walnut, pecan, almond, fig, olive, avocado, date, and oriental persimmon.

***107. Minor Subtropicals and Hardy Tropicals. (2) II. Mr. Hodgson**

Lectures, two hours; one Saturday field exercise.

Prerequisite: Horticulture 2 or the equivalent; Horticulture 100 recommended.

A survey of the knowledge concerning the requirements and responses of the minor subtropical fruit plants and the hardy tropicals. The fruits considered will include the pomegranate, tuna or prickly pear, passion fruit or granadilla, loquat, cherimoya, guava, jujube, white sapote, feijoa, pistachio, macadamia, carob, litchi, mango, and papaya.

* Not to be given, 1940-41; to be given in 1941-42; offered in alternate years.

ANTHROPOLOGY† AND SOCIOLOGY

*GEORGE M. DAY, Ph.D., Visiting Professor of Sociology.

KNIGHT DUNLAP, Ph.D., Professor of Psychology (Chairman of the Department of Anthropology and Sociology).

*RALPH L. BEALS, Ph.D., Assistant Professor of Anthropology.

HARRY HOIJER, Ph.D., Assistant Professor of Anthropology.

CONSTANTINE PANUNZIO, Ph.D., Assistant Professor of Sociology.

Letters and Science List.—All undergraduate courses in anthropology and sociology are included in the Letters and Science List of Courses. For regulations concerning this list, see page 67.

MAJOR IN SOCIOLOGY

Preparation for the Major.—Required: Economics 1A-1B, Sociology 30A-30B, Business Administration 1A, and in addition a year-course in philosophy or in another social science. Economics 40 is required of all majors in sociology (unless they are prepared to take Economics 142), but it may be taken in either lower or upper division.

The Major.—Twenty-four upper division units, including 15 units in sociology, Economics 100, and the remainder selected from the following: Economics 106, 107, 131A-131B, 132, 150, 152. Not more than a total of 30 upper division units in economics and sociology may be counted toward the bachelor's degree.

ANTHROPOLOGY

LOWER DIVISION COURSES

1A. General Anthropology. (3) I.

Mr. Hoijer

Origin, antiquity, and races of man; physical anthropology; race problems.

1B. General Anthropology. (3) II.

Mr. Beals, Mr. Hoijer

Origin and growth of culture. Problems in invention, material culture, social institutions, religion, language.

UPPER DIVISION COURSES

Courses 1A, 1B or the equivalent are prerequisite to all upper division courses, except for majors in economics, geography, history, political science, psychology, or sociology.

*101. World Ethnography. (3) I.

Mr. Beals

A descriptive survey of representative primitive cultures, including backward people of civilized countries.

*102. Methods and Theories of Anthropology. (3) II.

Mr. Beals

Illustrations from specific problems and from the work of outstanding anthropologists.

† The University of California at Los Angeles does not offer a major in anthropology. Students wishing to satisfy the requirements for a major in anthropology are referred to the *General Catalogue, Departments at Berkeley*.

* In residence first semester only, 1940-41.

* In residence second semester only, 1940-41.

* Not to be given, 1940-41; probably to be given, 1941-42.

103. Culture History. (3) I.**Mr. Hoijer**

A general survey of the origin and development of early civilizations of the Old World: Europe, Asia, Africa, Oceania.

104. Civilizations of Mexico. (3) II.**Mr. Beals**

Ancient civilizations and modern peoples; archeology, art, architecture, mode of life, social institutions, and religion.

105. The American Indian. (3) I.**Mr. Hoijer**

An introductory survey of the Indians of North and South America; origins, languages, civilizations, and history.

125. Primitive Society. (3) II.**Mr. Beals**

A survey of the social institutions of the simpler peoples of the world: marriage and the family, division of labor, totems and clans, social stratification, economic organizations, political institutions, etc.

139. Africa. (3) II.**Mr. Hoijer**

A survey of the ethnology of Africa south of the Sahara.

147. Oceania. (3) II.**Mr. Hoijer**

The aboriginal peoples and cultures of Australia, Malaysia, Melanesia, Micronesia, and Polynesia.

151. Archeological Methods. (2) II. Saturdays.**Mr. Beals**

Open to men only with the consent of the instructor. Enrollment is limited, but if vacancies exist, prerequisites will be waived for students with adequate background in geology, paleontology, or zoology. Students must arrange for transportation when necessary and supply part of their own field equipment.

A study of problems and methods of archeology. A large portion of the work will consist of museum visits and supervised participation in the excavation of local archeological sites.

RELATED COURSE IN ANOTHER DEPARTMENT**General Philology and Linguistics 170. Introduction to Linguistics. (3) II.**

See page 166.

Mr. Hoijer**SOCIOLOGY****LOWER DIVISION COURSE****30A-30B. Social Institutions. (3-3) Yr.****Mr. Panunzio**

This course or its equivalent is prerequisite for admission to upper division courses in sociology. Students presenting credit for another elementary course in sociology may, by special permission, take 30A-30B for credit also.

The social institutional order; the originating factors; the functions and problems of marriage, the family, government, and other institutions.

UPPER DIVISION COURSES

Course 30A-30B is a prerequisite to all upper division courses in sociology.

†120. Social Pathology. (3) I.**Mr. Day**

Prerequisite: course 30A-30B.

Social disorganization, subnormal and abnormal groups and conditions; maladjustment, the agencies and methods of prevention, treatment, and control.

† For 1940-41 this course will be offered in the first semester only.

121. Social Processes. (3) I, II.

Mr. Panunzio

A theoretical study of group structure and functioning: the processes of contact, interaction, association, and dissociation as they operate among individuals in groups.

181. Care of Dependents. (2) II.

Prerequisite: course 120.

Poverty as a social problem; historical and current methods of dealing with various classes of dependents; proposed agencies and methods of prevention, treatment, and control.

182. Crime and Delinquency. (2) II.

Prerequisite: course 120.

Crime and delinquency as social maladjustment; theories of crime and punishment; forms and causes of juvenile and adult crime; programs and methods of prevention, treatment, and control.

186. Population Problems. (3) I.

Mr. Panunzio

Prerequisite: senior standing.

A study of the quantity, migration, concentration, and quality of modern Western people with particular reference to sociological phenomena.

189. Race and Culture. (2) II.

Mr. Panunzio

Prerequisite: senior standing.

The contact and interaction of races and cultures in the modern world, with particular reference to social consequences of amalgamation, hybridization, cultural assimilation, conflict, accommodation.

ART

GEORGE JAMES COX, B.C.A., Professor of Art (Chairman of the Department).

ROBERT S. HILPERT, M.A., Associate Professor of Art Education.

LOUISE PINKNEY SOOY, Associate Professor of Fine Arts.

NELLIE HUNTINGTON GERE, Associate Professor of Fine Arts, Emeritus.

HELEN CLARK CHANDLER, Assistant Professor of Fine Arts.

HELMUT HUNGERLAND, Ph.D., Assistant Professor of Fine Arts.

BESSIE E. HAZEN, Ed.B., Assistant Professor of Fine Arts, Emeritus.

LAURA F. ANDRESON, M.A., Instructor in Fine Arts.

ANNITA DELANO, Associate in Fine Arts.

CLARA BARTRAM HUMPHREYS, M.A., Associate in Fine Arts.

ANNIE C. B. MCPHAIL, Ed.B., Associate in Fine Arts.

BELLE H. WHITICE, Associate in Fine Arts.

VIRGINIA VAN NORDEN WOODBRIDGE, Ed.B., Associate in Fine Arts.

IDA ABRAMOVITCH, Ed.B., Assistant in Art.

DOREEN MARY BAVERSTOCK, A.B., Assistant in Art.

WILLIAM F. BOWNE, Ed.B., Assistant in Art.

ROBERT TYLER LEE, Assistant in Art and Assistant in Dance.

ARTHUR M. JOHNSON, Ph.D., Associate Professor of Botany.

NATALIE WHITE, M.A., Supervisor of Training, Art.

The College of Applied Arts

Preparation for the Major.—Twenty-four units of lower division courses. Programs should be arranged in consultation with a departmental adviser as each group leading to a major has a definite requirement.

The Major.—Thirty-six units of coördinated upper division courses. The major may be taken in one of four specified groups: (a) Art History, (b) Fine Arts, (c) Applied Arts, or (d) The Teaching of Art. Each program must be approved in advance by a departmental adviser.

The Minor.—Twenty units of coördinated courses, not less than six of which must be in the upper division.

For students with major or minor in art, courses 1A and 2A are prerequisite to all other courses in the department except certain courses which may be taken concurrently with them.

The College of Letters and Science

Letters and Science List.—Courses 1A-1B, 2A, 2B, 4A, 4B, 14A, 14B, 21, 24, 32A-32B, 42, 121A-121B, 131A, 131B, 137A-137B, 144A-144B, 161A-161B, 164A-164B, and 172A-172B are included in the Letters and Science List of Courses. For regulations governing this list, see page 67. A major in art is not offered in the College of Letters and Science.

Laboratory Fees.—Courses 119A, 119B, 139A, 188A, 188B, 330, \$2; 164A, 164B, \$4.

LOWER DIVISION COURSES

- 1A-1B. Aesthetics. (2-2) Yr.** Mr. Cox
The origin and function of the arts and their practical relation to contemporary civilization.
- 2A. Art Structure. (2) I, II.** Miss McPhail, Miss Andreson
Fundamental course in creative design and color theory.
- 2B. Art Structure. (2) I, II.** Miss McPhail, Miss Andreson
Prerequisite: course 2A.
Basic study of the elements of art as related to two-dimensional decorative design, applicable to industrial techniques and processes.
- 4A. Drawing. (2) I, II.** Mr. Bowne, Mrs. Abramovitch
The application of free and mechanical perspective to the problems of drawing and industrial design.
- 4B. Drawing. (2) I, II.** Mr. Bowne, Mrs. Abramovitch
Prerequisite: course 4A.
Objective drawing of natural forms from observation and memory.
- 9. Elementary Crafts. (2) I, II.** Miss Andreson
Prerequisite: courses 1A, 2A, 2B.
The fundamental processes of the major crafts; principles of design as related to three-dimensional form; experiments in the use of plastic materials in abstract composition.
- 12. Typographic Composition. (2) I, II.**
Prerequisite: courses 1A, 2A, 2B.
The design of lettering; composition using type forms; simple problems in layout.
- 14A. Water-color Painting. (2) I.** Miss Chandler, Mrs. Abramovitch
Prerequisite: courses 1A, 2A, 2B, 4A, 4B.
Still life; the study of water-color techniques; observation of color as related to form, light, and space.
- 14B. Water-color Painting. (2) II.** Miss Chandler, Mrs. Abramovitch
Prerequisite: courses 1A, 2A, 2B, 4A, 4B, 14A.
Development of techniques as related to industrial design, costume, and interior decoration.
- 21. Costume and House Furnishing. (2) I, II.** Mrs. Sooy and the Staff
Lectures and demonstrations.
Appreciative study of modern dress and modern house furnishing.
- 24. Introduction to Scientific Illustrating. (3) I.** Mr. Johnson
Lectures, two hours; laboratory, three hours.
Prerequisite: the consent of the instructor.
Illustration with particular reference to the life sciences; emphasis upon the various techniques in use, and upon the relation of biological forms to design in art.
- 32A-32B. Art Structure. (2-2) Beginning either semester.** Miss Delano
Prerequisite: courses 1A, 2A, 2B, 4A, 4B.
The development of the ability to compose imaginatively with line, space, and color.

42. Introduction to Art. (3) I, II.

Mr. Hilpert

Not open to students whose major is art.

An exploratory course to develop an understanding and appreciation of art as an aspect of all activities of daily life.

48. Art of the Theater. (2) I, II.

Miss Baverstock

The visual art of the theater; use of materials and equipment of the modern stage.

UPPER DIVISION COURSES

101A. History of Furniture. (2) I.

Mrs. Sooy

The history of furniture from ancient to modern times.

101B. History of Costume. (2) II.

Mrs. Sooy

The history of costume from ancient to modern times.

119A-119B. Ceramics. (2-2) Yr.

Miss Andreson

Fee, \$2 a semester.

Prerequisite: courses 1A, 2A, 2B.

Pottery, related to art and industry.

121A-121B. Survey of the History of Art. (2-2) Yr.

Mr. Hungerland

Prerequisite: course 1A.

A critical study of important phases in the development of Western art after 1500.

129A-129B. Art of the Book. (2-2) Yr.

Miss Whitice

Prerequisite: courses 1A, 2A, 2B, 9.

Study of the book, past and present; practical work appropriate to the materials and processes of the craft; bookbinding, using various types of book construction and binding materials.

131A. History of Gothic Art. (2) I.

Mr. Hungerland

Analysis of the principles of Gothic art as demonstrated in architecture, sculpture, and painting.

131B. The Modern Movement in the Visual Arts. (2) II.

Mr. Hungerland

A critical analysis of art from post-impressionism to the present.

132A-132B. Industrial Design. (2-2) Yr.

Miss Delano

Prerequisite: course 9.

Study of materials, processes and functions of the art industries, leading to original design.

135. Book Illustration. (2) I.

Miss Chandler

Prerequisite: course 164A.

Pen and ink, wood engraving, and color.

137A-137B. Landscape Painting. (2-2) Yr.

Miss Delano

The development of personal vision and individual expression as applied to landscape painting. Survey of modern and traditional schools.

139A. Weaving. (2) I.

Miss Whitice

Fee, \$2.

Prerequisite: course 9.

History and development of weaving; experience with techniques and processes.

139B. Weaving. (2) II.

Miss Whittlee

Prerequisite: course 139A.

A continuation of course 139A.

144A-144B. Advanced Painting. (2-2) Yr.

Miss Chandler

Prerequisite: courses 2A, 2B, 4A, 4B.

The techniques of oil painting; development of perception and understanding of the essential qualities of form, light, color, and their integration in painting.

***151A-151B. The Art of Latin America. (2-2) Yr.**

Mr. Hungerland

156A. House Planning and Decoration. (2) I, II.

Mrs. Woodbridge

Lectures, laboratory, and demonstrations.

Prerequisite: course 21.

A general cultural course, considering the home as a unit; the arrangement of garden, house, floor plan, and furniture as functional and decorative problems.

156B. House Planning and Decoration. (2) I, II.

Mrs. Woodbridge

Prerequisite: course 156A.

The study of architectural forms and design in relation to interior decoration; general research into the essentials of the historic periods; original adaptation and creation.

161A-161B. Introduction to Oriental Art. (2-2) Yr.

Mr. Hungerland

Prerequisite: course 1A and the consent of the instructor.

Selected problems from phases of Oriental art.

164A-164B. Life Class. (2-2) Yr.

Mr. Cox

Fee, \$4 a semester.

Objective drawing and expressive interpretation of the human figure; its use in original composition.

165A. Advertising Illustration. (2) I.

Prerequisite: course 32A-32B.

Design for advertising; emphasis upon type forms and composition; posters, booklets, layouts, etc.

165B. Advertising Illustration. (2) II.

Prerequisite: course 165A.

Psychological factors in design and their relationship to merchandising.

168A. Design for Theater Productions. (2) I, II.

Mr. Lee

Prerequisite: senior standing.

The use of form, space, and color in theatrical terms, and the employment of historical material.

168B. Supervision of Theater Productions. (2) I, II.

Mr. Lee

Prerequisite: course 168A.

A practical course in supervision and organization with experience in design and execution of actual productions.

172A-172B. Advanced Composition. (2-2) Yr.

Miss Chandler

Prerequisite: courses 137A-137B, 144A-144B, 164A-164B.

Further experience in coördinating all the factors entering into a painting, and a technical study of methods and materials.

* Not to be given, 1940-41.

173. **Costume of the Theater.** (2) I. Mrs. Sooy
The decorative, historical, and psychological aspects of creative costume.
179. **Metal Craft.** (2) II. Miss Whitice
Prerequisite: course 132A.
Original work in copper, brass, and silver.
180. **Theory and Philosophy of Art Education.** (2) II. Mrs. Sooy
Economic and social significance of aesthetic development. A comparative study of existing theories and practices.
- 183A-183B. **Costume Design.** (2-2) Yr. Mrs. Sooy
Prerequisite: course 21.
- 186A. **Advanced Interior Decoration.** (2) I. Mrs. Woodbridge
Prerequisite: courses 156A, 156B.
Original creation emphasized through a study of color harmonies and form arrangements; the influence of fashion in interior decoration.
- 186B. **Advanced Interior Decoration.** (2) II. Mrs. Woodbridge
Prerequisite: course 186A.
The technique of interior decoration; shop practice through actual problems in interior design in stores and homes.
- 188A-188B. **Introduction to Sculpture.** (2-2) Yr. Mr. Cox
Fee, \$2 a semester.
Prerequisite: courses 9 and 164A-164B.
Problems in creative expression; modeling of figures in terra cotta; portraiture.
- 199A-199B. **Special Studies for Advanced Students.** (2-2) Yr.
Mr. Cox, Mrs. Sooy, Miss Chandler, Mr. Hilpert
Prerequisite: senior standing, an average grade of B or higher in courses in art, and the consent of the instructor.
Advanced individual work upon specific problems connected with art and education.

PROFESSIONAL COURSES IN METHOD

330. **Art Handicraft Education.** (3) I, II. Miss White, Miss Whitice
Fee, \$2.
- 370A. **Principles of Art Education.** (2) I, II. Mr. Hilpert, Mrs. Humphreys
A study of objectives, child growth and development; general educational principles as related to art education.
- 370B. **Principles of Art Education.** (2) I, II. Mr. Hilpert, Mrs. Humphreys
A study of method and the curriculum in art education.

GRADUATE COURSES

- 271A-271B. **Advanced History of Art: Seminar.** (2-2) Yr. Mr. Hungerland
- 298A-298B. **Special Studies for Advanced Students.** (1-6; 1-6) Yr.
Mr. Cox, Mrs. Sooy, Miss Chandler, Mr. Hilpert

ASTRONOMY

FREDERICK C. LEONARD, Ph.D., Associate Professor of Astronomy (Chairman of the Department).

SAMUEL HERRICK, JR., Ph.D., Instructor in Astronomy.

JOSEPH KAPLAN, Ph.D., Professor of Physics.

Letters and Science List.—All undergraduate courses in astronomy are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Required: general astronomy (Astronomy 7A-7B); general physics (Physics 1A-1B-1C-1D or, in exceptional cases, Physics 2A-2B); plane trigonometry, plane analytic geometry, and differential and integral calculus (Mathematics C, 3A, 3B, and 4A). Recommended: spherical trigonometry (Mathematics F), first-year English (English 1A-1B), and a reading knowledge of French or German.

The Major.—At least eighteen upper division units of astronomy, which must include courses 102 and 117A-117B, and as many more upper division units as are required to total twenty-four, chosen from courses in astronomy, physics, or mathematics, according to some definite plan approved by the Department of Astronomy.

LOWER DIVISION COURSES

There are two courses in general elementary astronomy, namely, a semester course, Astronomy 1, without prerequisites, and a year course, Astronomy 7A-7B, with prerequisites in physics and mathematics. Students who have the prerequisites for Astronomy 7A-7B are advised to take that course rather than Astronomy 1, which is not open to students who have had Astronomy 7A-7B.

1. **Elementary Astronomy.** (3) I, II.

Mr. Leonard, Mr. Herrick

Lectures, three hours; discussion section, one hour.

The general principles and the fundamental facts of astronomy, with particular emphasis on the solar system.

2. **Practice in Observing.** (1) I.

Mr. Herrick

Prerequisite or concurrent: course 1 or 7A, and plane trigonometry.

Practical work for beginners, including constellation studies, telescopic observations of celestial objects, and laboratory exercises cognate to the material of courses 1 and 7A-7B. Regularly scheduled excursions to the neighboring observatories and planetarium constitute an integral part of the course.

3. **Practical Astronomy for Engineering Students.** (1) II.

Mr. Herrick

An observing period, 7:15-10 p.m., will be substituted occasionally for the regular class period.

Prerequisite: advanced sophomore standing; Civil Engineering 1FA and credit or registration in Civil Engineering 1FB.

A course intended primarily for students of civil engineering; the principles of practical astronomy and spherical trigonometry as they relate to the needs of such students; solution of the fundamental problems of practical astronomy; use of the *Almanac*; computing.

7A-7B. General Astronomy. (3-3) Yr.**Mr. Leonard**

(Formerly numbered 103A-103B.)

Prerequisite or concurrent: Physics 1A or 2A and Mathematics 3A.

The general principles and the fundamental facts of astronomy in all of its branches, with special emphasis on the solar system, developed and discussed in detail. Required in preparation for the major in astronomy. 7B may be taken before 7A with the consent of the instructor.

For observational work in connection with this course, course 2 may be elected.

15. The Historical Development of Astronomy. (3) I.**Mr. Herrick**

Prerequisite: the consent of the instructor. This course is designed especially for students whose major subject is philosophy or a social science.

Astronomical and related science: its historical development, utilization of the scientific method, and effect upon the thought of certain periods.

UPPER DIVISION COURSES

Lower division courses in astronomy are not prerequisite to upper division courses unless specified.

102. Stellar Astronomy. (3) I.**Mr. Leonard**

Prerequisite: course 7A-7B or the consent of the instructor.

A general review of stellar astronomy, with special emphasis on the results of modern researches.

104A-104B. Practical Astronomy. (3-3) Yr.*Mr. Leonard, Mr. Herrick**

An observing period, 7:15 to 10 p.m., may be substituted each week for any one of the regular class periods.

Prerequisite: courses 1 and 2, or 3, or 7A-7B; a year of college physics; and Mathematics 3A-3B. Recommended: course 107, which may be taken concurrently with course 104A, and Mathematics F.

The elements of practical astronomy, including the theory and the application of fundamental astronomical instruments, and the use of star maps, star catalogs, and almanacs.

107. The Reduction of Observations. (3) I.**Mr. Leonard, Mr. Herrick**

Prerequisite: Mathematics 3B-4A.

Analytical, arithmetical, and graphical methods employed in the handling of numerical and observational data, including the theory of errors and least squares and its application to the solution of astronomical, physical, chemical, and engineering problems.

108. Interpolation. (3) II.**Mr. Herrick**

Prerequisite: Mathematics 3B-4A.

The more serviceable formulae of interpolation and their application in the use of astronomical, physical, chemical, and engineering tables; development of the formulae of numerical differentiation and integration and their employment in the construction of tables; practice in making extensive calculations, with special aim at accuracy and speed.

115. The Determination of Orbits. (3) II.**Mr. Herrick**

Prerequisite: Mathematics 3B-4A.

The theory and calculation of the orbits and ephemerides of comets and minor planets.

* Not to be given, 1940-41.

117A-117B. Astrophysics. (3-3) Yr.**Mr. Kaplan**

A laboratory period will occasionally be substituted, by appointment, for one of the regular class periods.

Open to students whose major subject is astronomy, some other physical science, or mathematics.

A general review of spectroscopy and astronomical physics, with special emphasis on the solar system during the first semester. This course is acceptable in partial fulfillment of the requirements of the major in physics.

118. Meteoritics. (3) II.**Mr. Leonard**

Open to students whose major subject is some physical science, particularly astronomy, geology, or chemistry.

The science of meteorites and meteors.

199A-199B. Special Studies in Astronomy or Astrophysics. (2-2) Yr.**The Staff (Mr. Leonard in charge)**

Prerequisite: the consent of the instructor.

Investigation of special problems or presentation of selected topics chosen in accordance with the preparation and the requirements of the individual student. Astronomy 199A-199B, Sec. 2, "Special Studies in Astrophysics," is acceptable in partial fulfillment of the requirements of the major in physics.

BACTERIOLOGY

THEODORE D. BECKWITH, Ph.D., Professor of Bacteriology (Chairman of the Department).

ELINOR LEE BEEBE, R.N., Ph.D., Assistant Professor of Public Health Nursing.

ANTHONY J. SALLE, Ph.D., Assistant Professor of Bacteriology.

† **CLAUDE E. ZOBELL, Ph.D.,** Assistant Professor of Marine Microbiology.

MERIDIAN G. BALL, Sc.D., Instructor in Bacteriology.

HELEN M. CROCKETT, M.S.S., Lecturer in Medical Social Case Work.

ORREN LLOYD-JONES, M.D., Lecturer in Public Health Nursing.

ALICE L. RORRISON, R.N., M.S., Field Supervisor and Assistant in Public Health Nursing.

Letters and Science List.—All undergraduate courses in bacteriology and public health are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Bacteriology 1, Chemistry 1A-1B, Zoölogy 1A-1B, Botany 1A or 1B, Physics 2A-2B, French or German. Recommended: Chemistry 6A, 8, 9; Zoölogy 4.

The Major.—Bacteriology 103 (4 units), 199A (2 units); either 199B (2 units) or 195 (2 units) or 105 (4 units); also 16 units of upper division work in related subjects, these to be selected from the following series: Bacteriology 104, 105, 106; Public Health 101A, 101B; Botany 105A, 119, 120, 126, 191A, 191B; Zoölogy 101, 105, 106, 107, 107C, 111, 111C, 118; Chemistry 107A, 107B, 109A, 109B, 195; Home Economics 159; Soil Science 110; Plant Pathology 120. Courses are to be chosen with the approval of the department.

Curriculum for Medical Technicians.—For details, see the ANNOUNCEMENT OF THE COLLEGE OF LETTERS AND SCIENCE, LOS ANGELES.

Laboratory Fees.—Course 1, \$12.50; 103, \$15; 105, \$10; 199A, 199B, \$8.

LOWER DIVISION COURSES

1. Fundamental Bacteriology. (4) I, II.

Miss Greene, Mr. Salle

Fee, \$12.50.

Prerequisite: Chemistry 1A.

Early history of bacteriology; effects of physical and chemical agencies upon bacteria; biochemical activities of bacteria; the bacteriology of the air, water, soil, milk and dairy products, other foods; industrial applications. The laboratory exercises include an introduction to bacteriological technique.

Students who have credit for course 6 will receive only three units for course 1.

6. General Bacteriology. (2) II.

Mr. Beckwith

A cultural course for nontechnical students.

Students who have credit for course 1 will receive only one unit for course 6.

† Member of the staff of Scripps Institution of Oceanography, La Jolla.

UPPER DIVISION COURSES

103. **Advanced Bacteriology.** (4) I. Mr. Beckwith
Fee, \$15.
Prerequisite: course 1.
The more advanced principles of the life activities, growth, and morphology of bacteria. The etiology of disease.
104. **Soil Bacteriology.** (2) II. Mr. ZoBell
The microscopic flora of soil: the morphology, function, and metabolism of soil bacteria.
105. **Serology.** (4) II. Miss Greene
Fee, \$10.
Prerequisite: course 103.
A lecture and laboratory course dealing with the theory and practice of serological methods. Limited to twelve students.
106. **Metabolism of Bacteria.** (2) I. Mr. Salle
Prerequisite: course 1 and Chemistry 8.
Chemical composition of bacteria; influence of physicochemical conditions on growth; bacterial processes and enzymatic mechanisms. This course consists of lectures and discussions.
195. **Proseminar.** (2) I, II. Mr. Beckwith
Prerequisite: course 103.
Library problems.
- 199A-199B. **Problems in Bacteriology.** (2-2) Yr.
Fee, \$8 a semester. Mr. Beckwith, Mr. Salle, Miss Greene
Prerequisite: the consent of the instructor.

MICROBIOLOGY

GRADUATE COURSES

210. **Advanced Bacterial Physiology.** (3) II. Mr. Salle
Prerequisite: Bacteriology 106.
Physiological activities of microorganisms in the light of more advanced principles.
- 251A-251B. **Seminar in Microbiology.** (2-2) Yr.
Mr. Beckwith, Mr. Ball, Mr. Plunkett
- 293A-293B. **Research in Microbiology.** (2-5; 2-5) Yr.
Mr. Beckwith, Mr. Ball, Mr. Plunkett

PUBLIC HEALTH

UPPER DIVISION COURSES

- 101A. **Public Health and Preventive Medicine.** (3) I. Mr. Lloyd-Jones
Prerequisite: Bacteriology 1 or Zoölogy 1A; or, for students in the Public Health Nursing Curriculum, the consent of the instructor.
Beginnings and backgrounds of medicine. Nature of infection and immunity. Discussion of the most important communicable diseases with special emphasis on their control and prevention.

- 101B. Public Health and Preventive Medicine. (3) II.** Mr. Lloyd-Jones
 Prerequisite: Bacteriology 1 or Zoölogy 1A; or, for students in the Public Health Nursing Curriculum, the consent of the instructor.
 Development, organization and administration of public health; social trends of medicine; collection and interpretation of vital statistics; environmental sanitation; principles of epidemiology with some special control programs such as tuberculosis, venereal disease, mental hygiene, degenerative diseases.

**PUBLIC HEALTH NURSING
 PROFESSIONAL COURSES**

- 402. Family Case Work as Related to Public Health Nursing. (2) II.**
 Miss Crockett
 Class work, field and observation study.
 This course is planned to familiarize the public health nurse with the processes of social case work as carried on by social agencies, the approach to problems of family and community relationship, and the application of social case work methods in the public health nursing field.
- 418. Principles and Practice in Public Health Nursing. (3) I.** Miss Beebe
 A general view of public health nursing as illustrated by its present scope and methods. A study of the objectives of public health nursing, applied to all phases of the services, including maternity, infancy, preschool, school, and industrial.
- 419. Administration and Organization of Public Health Nursing. (3) II.**
 Miss Beebe
 The history and development of public health nursing to meet individual, family, and community health needs. The policies and trends in the organization of national, state, local, municipal, and rural public health nursing services; application of these policies to official and nonofficial agencies.
- 420. Field Experience in Public Health Nursing. (6) I, II.**
 Not offered in the summer. Miss Beebe, Miss Morrison
 Fee, \$20.
 Prerequisite: completion of the academic program for the Public Health Nursing Certificate.
 Sixteen weeks of continuous supervised field assignment with designated affiliating agencies of the Los Angeles vicinity. Students carry no outside work or other study during the field program. This period does not affect residence requirement.

BOTANY

OLENUS L. SPONSER, Ph.D., Professor of Botany (Chairman of the Department).

CARL C. EPLING, Ph.D., Associate Professor of Botany.

*ARTHUR W. HAUPT, Ph.D., Associate Professor of Botany.

ARTHUR M. JOHNSON, Ph.D., Associate Professor of Botany.

ORDA A. PLUNKETT, Ph.D., Assistant Professor of Botany.

FLORA MURRAY SCOTT, Ph.D., Assistant Professor of Botany.

Letters and Science List.—All undergraduate courses in this department are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Botany 1A-1B, 6 and 7, Chemistry 1A-1B or 2A-2B, German 1, 2. In addition to these courses, certain phases of botanical work require Geology 3, 5, Physics 2A-2B, Bacteriology 1, and Zoölogy 1A.

The Major.—Seventeen units of upper division botany, including courses 105A-105B and 106A-106B; and in addition, seven units in botany or related courses—bacteriology, chemistry, geology, paleontology, and zoölogy—to be chosen with the approval of the department.

Laboratory Fees.—Courses 7, 10, \$3; 6, 111, 113, 120, \$2.

LOWER DIVISION COURSES

1A. General Botany. (4) I, II. Mr. Haupt, Miss Scott, Mr. Plunkett
Lectures, two hours; laboratory, four hours.
An introduction to the structure, functions, and environmental relations of the seed plants.

1B. General Botany. (4) I, II. Mr. Haupt, Miss Scott, Mr. Plunkett
Lectures, two hours; laboratory, four hours.
Prerequisite: course 1A.
The evolution of the plant kingdom, dealing with the comparative morphology of all the great plant groups.

6. Plant Anatomy. (3) I. Miss Scott
Lecture, one hour; laboratory, six hours. Fee, \$2.
Recommended: course 10.
The microscopic structure of the higher plants with particular reference to the development and differentiation of vegetative tissues.

7. Plant Physiology. (4) II. Mr. Sponsler
Lecture, two hours; laboratory, six hours. Fee, \$3.
Prerequisite: course 6, and chemistry.
Experimental work designed to demonstrate various activities of the plant.

9. Anatomy of Flowers and Fruits. (3) II. Mr. Johnson
Lecture, one hour; laboratory, six hours.

* In residence second semester only, 1940-41.

36. Forest Botany. (3) I.

Mr. Johnson

Lecture, one hour; laboratory, six hours, or equivalent field work.

Identification and distribution of the dominant woody species of California. For forestry majors and others interested in conservation, flood control, and soil erosion.

UPPER DIVISION COURSES

General Prerequisite.—Botany 1A, 1B are prerequisite to all upper division courses.

103. Botany of Economic Plants. (2) I.

Mr. Johnson

Designed for students of economics, geography, agriculture, and botany. The general morphology, classification, ecology and geographic distribution, origin, and uses of economic plants.

105A. Algae and Bryophytes. (4) I.

Mr. Plunkett

Lectures, two hours; laboratory, six hours.

A study of the structure, development, and phylogenetic relationships of the principal orders of fresh water and marine algae, and of liverworts and mosses.

105B. Morphology of Vascular Plants. (4) II.

Mr. Haupt

Lectures, two hours; laboratory, six hours.

Structure, development, and phylogenetic relationships of the principal groups of pteridophytes and spermatophytes.

106A-106B. Angiosperms. (3-3) Yr.

Mr. Epling

Lecture, one hour; laboratory, six hours, and additional field work to be arranged.

A survey of the chief orders and families of the flowering plants involving a study of their gross structure, phylogenetic classification, and geographical distribution. Designed for botany majors, teachers of nature study, and students in the College of Agriculture.

***111. Plant Cytology. (3) I.**

Mr. Haupt

Lecture, one hour; laboratory, six hours. Fee, \$2.

Prerequisite: courses 6, 10, and 105A or 105B.

Structure and physiology of the cell.

113. Physiological Plant Anatomy. (3) II.

Miss Scott

Lecture, one hour; laboratory, six hours. Fee, \$2.

Prerequisite: courses 6 and 7.

A study of the tissues of the higher plants in relation to function; a survey of the visible structural and reserve materials of the plant body.

***114. Advanced Plant Physiology. (3) I.**

Mr. Sponsler

Conferences and laboratory.

Prerequisite: courses 6 and 7, chemistry, and physics.

Experimental work on certain functions of the plant.

119. Mycology. (3) I.

Mr. Plunkett

Lecture, one hour; laboratory, six hours.

Structure, development, and classifications of the important genera and species of fungi. For students in botany, bacteriology, agriculture, and forestry.

* Not to be given, 1940-41.

- 120. Phytopathology. (3) II.** Mr. Plunkett
Lecture, one hour; laboratory, six hours. Fee, \$2.
Prerequisite: course 119.
A study of bacterial and fungous diseases of plants.
- 126. Medical Mycology. (3) II.** Mr. Plunkett
Lecture, one hour; laboratory, six hours.
Prerequisite: course 119 and Bacteriology 1.
An introduction to the morphology, physiology, and taxonomy of the fungi which cause diseases in man and the domestic animals. This course is designed for students in bacteriology, parasitology, and medicine; it is limited to ten students.
- 151. History of Botany. (2) I.** Mr. Johnson
Prerequisite: senior standing.
- 152. Ecological Phytogeography. (3) II.** Mr. Johnson
Lecture, two hours; laboratory and field, three hours.
Prerequisite: course 106A-106B.
Field and laboratory studies of plant communities and their relation to the environment.
- 153A-153B. Advanced Systematic Botany. (2-2) Yr.** Mr. Epling
A systematic survey of the flowering plants by a comparison of the two principal schemes of relationship; origin of the group and concept of speciation.
- 190. Research Methods in Morphology. (2) I.** _____
Laboratory and conferences.
For students of senior and graduate standing.
- 191A-191B. Molecular Structure of Biological Materials. (2-2) Yr.** Mr. Sponsler
Open to seniors and graduate students; others by permission.
Prerequisite: senior standing, or the consent of the instructor; Physics 2A-2B, Chemistry 8, and Botany 1A-1B or Zoölogy 1A-1B, and in addition advanced courses in biological fields.
An adaptation of our knowledge of atomic and molecular structure to our biological conceptions of protoplasm and cell parts.
- *195. Special Topics. (2) I, II.** The Staff (Mr. Sponsler in charge)
Prerequisite: senior standing, or the consent of the instructor.
- 199A-199B. Problems in Botany. (2-2) Yr.** The Staff (Mr. Sponsler in charge)
Prerequisite: senior standing.

GRADUATE COURSES

- 252A-252B. Seminar in Principles and Theories of Botany. (2-2) Yr.** Mr. Sponsler
- 253A-253B. Seminar in Special Fields of Botany. (1-1) Yr.** The Staff
- 253C-253D. Second Seminar in Special Fields of Botany. (1-1) Yr.** The Staff
- 278A-278B. Research in Botany. (2-6; 2-6) Yr.** The Staff

* Not to be given, 1940-41.

BUSINESS ADMINISTRATION

HOWARD SCOTT NOBLE, M.B.A., C.P.A., Professor of Accounting (Chairman of the Department of Business Administration).

FLOYD F. BURTOCHETT, Ph.D., Associate Professor of Banking and Finance.

RALPH CASSADY, JR., Ph.D., Associate Professor of Marketing.

IRA N. FRISBEE, M.B.A., C.P.A., Associate Professor of Accounting.

JOHN C. CLENDENIN, Ph.D., Assistant Professor of Banking and Finance.

A. GERHARD EGER, LL.B., Assistant Professor of Business Law.

WILBERT E. KAREENBROOK, Ph.D., Assistant Professor of Accounting.

VERNON D. KEELER, Ph.D., Assistant Professor of Management and Industry.

*GEORGE W. ROBBINS, M.B.A., Assistant Professor of Marketing.

EVA M. ALLEN, Associate in Commercial Practice.

ELSTON K. HERRALD, M.A., Associate in Accounting.

ESTELLA B. PLOUGH, Associate in Commercial Practice.

WILLIAM F. BROWN, M.A., Lecturer in Marketing.

HARRY SIMONS, M.A., C.P.A., Lecturer in Accounting.

The College of Business Administration

Preparation for the Major.—Business Administration 1A-1B, Economics 1A-1B, English 1A, Public Speaking 1A, Mathematics 8 and 2, Geography 5A-5B. Other requirements in the lower division will be found on page 80.

The Upper Division.

1. General requirements: (a) in the junior year, courses 18A-18B, 120, 140, 160A, 180, and Economics 135; (b) in the senior year, course 100.

2. Special electives: three units chosen from the following: courses 110, 116, 132 (except for finance majors), 145; Economics 131A-131B, 132, 150, 171, 173.

3. Nine upper division units in one of the following five majors: Accounting, Banking and Finance, Management and Industry, Marketing, General Business. (For courses offered in the various majors, see page 81.)

4. See (e) and (f), page 82, for requirements concerning electives and minimum scholarship standing.

Electives.—All undergraduate courses in the Letters and Science List (see page 67), will be accepted for credit toward the B.S. degree. A maximum of 6 units of electives aside from the preceding will be accepted for credit toward the degree.

The College of Letters and Science

Letters and Science List.—Courses 1A-1B, 131, 140, 145, 153, and 180. For regulations governing this list, see page 67.

Requirements for Admission to Graduate Status.

The general requirements (see 1. (a) above), or their equivalent, as well as the general University requirements, are prerequisite to admission to graduate status in the Department of Business Administration.

* In residence second semester only, 1940-41.

Departmental Requirements for the Master of Science Degree.

1. At least 6 units of the 24 required for the degree must be taken outside the Department of Business Administration.

2. At least 6 units of the 12 units of graduate courses (200 series) required, must be taken outside of the "field of specialization," and divided between at least two other fields.

3. The Department favors the comprehensive examination plan. For further information concerning graduate work consult the ANNOUNCEMENT OF THE GRADUATE DIVISION, SOUTHERN SECTION.

Requirements for Teaching Credentials.

Candidates for the Special Secondary Credential in commerce or for the General Secondary Credential with a major or minor in business education should consult the ANNOUNCEMENT OF THE SCHOOL OF EDUCATION, LOS ANGELES.

Fees.—Business Administration 140, \$3; Commerce A, \$6; Commerce B, \$10; Commerce 16, \$2.50.

LOWER DIVISION COURSES

1A-1B. Principles of Accounting. (3-3) Beginning either semester.

Two hours lecture, and two hours laboratory. Mr. Noble and Staff

Prerequisite: sophomore standing.

2A-2B. Accounting Laboratory. (1-1) Beginning either semester.

Should be taken concurrently with course 1A-1B. Mrs. Allen

18A-18B. Business Law. (3-3) Beginning either semester. Mr. Eger

Prerequisite: junior standing.

Law in its relationship to business. Essentials of the law of contracts, agency, bailments, sales, negotiable instruments, partnerships, and private corporations.

UPPER DIVISION COURSES

Business Administration 1A-1B and Economics 1A-1B are prerequisite to all upper division courses.

†100. **Theory of Business.** (2) I, II.

Mr. Cassady, Mr. Clendenin, Mr. Burtchett

Prerequisite: senior standing.

Not open for credit to students who have taken or are taking Economics 100A.

Influence of certain fundamental laws in economics upon the practical processes of production, distribution, the price system, profits, and wages. The coordination of business activities under imperfect competition. The nature of social and economic forces which modify and direct business policies.

110. Real Estate Principles. (3) II.

Mr. Clendenin

A survey of the business methods, economic problems, and legal background of real estate operation. Topics studied include ownership estates, liens, mortgages, leases, taxes, deeds, escrows, title problems, brokerage, subdivisions, appraisals, and zoning and building ordinances.

Visiting professional and business men give special lectures.

† Open only to students registered in College of Business Administration and to graduate students who have had the necessary preliminary preparation.

116. General Laws Relating to Property. (3) I, II.

Mr. Eger

Prerequisite: course 18A-18B.

Distinctions between real and personal property, types of ownership, methods of acquisition and disposal, separate and community property, title, control and management of community property and liability for debts, making of wills, succession to property by will and in the absence of will, and summary of probate procedure.

120. Business Organization. (3) I, II.

Mr. Cassady, Mr. Keeler

A study of the business unit and its functions from the points of view of both society and management. The coordination of production, finance, marketing, personnel and accounting in a going business. The relation of the enterprise to the industry in general, to the business cycle, to law and government, and to the public.

†121A. Industrial Management. (3) I.

Mr. Keeler

Prerequisite: course 120.

A study of the evolution and development of the industrial system. The application of scientific management and scientific methodology. A consideration of modern methods of approach to present day production problems.

†121B. Industrial Management. (3) II.

Mr. Keeler

Prerequisite: course 121A.

The work of the second half-year consists of the combination of classroom discussions and field trips. Written reports and class discussions are designed to correlate the theory and practice of modern factory management.

†125. Organization and Management Problems. (3) II.

Mr. Keeler

Prerequisite: senior standing.

A case method study of the practical problems involved in the organization and management of business enterprises. Emphasis is placed upon the correlation of functions and activities in the organization of operating departments.

131. Corporation Finance. (3) I, II.

Mr. Burtchett

Prerequisite: Economics 135.

A study of the financial structures and financial problems of business corporations. The instruments and methods of financing a corporation will be considered in their social, legal, and economic effects as well as in their effects on the corporation and the shareholders.

†132. Investments. (3) I, II.

Mr. Burtchett, Mr. Clendenin

Prerequisite: Economics 135.

The principles underlying investment analysis and investment policy; the chief characteristics of civil and corporate obligations and stocks. Investment trusts and institutional investors, forms, problems, and policies. Relation of money markets and business cycles to investment practice.

†133. Investment and Financial Analysis. (3) II.

Mr. Clendenin

Prerequisite: course 131 or 132; Economics 135.

Examination of specific securities and projects from an investment point of view; sources of information on investment matters; the writing of investment analysis and reports. Examples of financial practices involved in mergers, reorganizations, recapitalization plans, etc. Reading assignments and class discussions will be devoted mainly to actual recent cases.

† Open only to students registered in College of Business Administration and to graduate students who have had the necessary preliminary preparation.

†139. Applied Business Finance. (3) I.**Mr. Burtchett****Prerequisite: Economics 135.**

An intensive study of the financial operations of business; work of the credit department, the comptroller's or treasurer's office; preparation of financial reports for stockholders and for public authorities; credit analysis; credit bureaus and their services; consumer installment contracts and financing; bank relations in general. This course emphasizes the short-term financial problems and practices of all types of business enterprise.

140. Business Statistics. (4) I, II.**Mr. Brown, Mr. Frisbee****Fee, \$3.**

Students who have credit for Economics 40 will receive only one unit of credit for this course.

Sources of statistical data; construction of tables, charts, and graphs; study of statistical methods; averages, measures of deviation, index numbers, secular trend, seasonal variation, correlation; study of business cycles; practical application of statistical methods in business problems.

†144. Business and Statistical Research. (2) I.**Mr. Brown****Prerequisite: senior standing.**

The study of the theory of research methodology and the application of specific research techniques to actual business problems. These problems will be made possible by the cooperation of various concerns in southern California.

145. Principles of Insurance. (3) I.**Mr. Clendenin**

Description of the major types of insurance: life, property, casualty, etc.; interpretation of the contracts under which such insurance is written; regulation and control of insurance companies; general principles of mortality and premium calculation; basic legal principles of property and equity law as involved in the transfer of risks; distribution system of underwriting; organization of the insurance carrier companies.

153. Personnel Management. (3) I.**Mr. Keeler**

A study of the administration of human relations in industry; the development of employment relations; problems and methods of selecting and placing personnel; problems and methods of labor maintenance; the joint control of industry; the criteria of effective personnel management.

160A. Advanced Accounting. (3) I, II.**Mr. Noble, Mr. Karrenbrock, Mr. Simons**

Adjustments, working papers, statements from incomplete data, cash and receivables, inventories, investments, fixed assets, intangibles and deferred charges, liabilities, capital stock and surplus, installment accounting, consignments, statement analysis, and application of funds.

160B. Advanced Accounting. (3) I, II.**Prerequisite: course 160A. Mr. Noble, Mr. Karrenbrock, Mr. Simons**

Partnerships, joint ventures, statements of affairs, receiverships, realization and liquidation statement, agencies and branches, consolidated balance sheets, consolidated profit and loss statements, estates and trusts, and actuarial accounting problems.

† Open only to students registered in College of Business Administration and to graduate students who have had the necessary preliminary preparation.

†161. Cost Accounting. (3) I.**Mr. Karrenbrock**

Prerequisite: course 160A.

Distribution of department store expenses, general factory accounting, process costs, job-lot accounting, foundry accounting, budgets and control of costs, expense distributions, burden analyses, differential costs, by-products and joint-products, and standard costs.

†162. Auditing. (3) II.**Mr. Frisbee**

Prerequisite: courses 160A, 160B.

Accounting investigations, balance sheet audits, and detailed audits performed by public accountants. Valuation, audit procedure, working papers, and audit reports.

†163. Federal Tax Accounting. (3) I.**Mr. Frisbee**

Prerequisite: courses 160A, 160B.

A study of the current federal revenue acts as relating to income taxation, excess profits taxes, estate taxes, capital stock taxes, and gift taxes.

180. Elements of Marketing. (3) I, II.**Mr. Robbins, Mr. Cassady**

A survey designed to give a basic understanding of the major marketing methods, institutions, and practices. The problems of retailing, wholesaling, choosing channels of distribution, advertising, coöperative marketing, pricing, market analysis, and marketing costs are defined from the standpoint of the consumer, the middleman, and the manufacturer.

†184. Sales Management. (3) II.**Mr. Robbins**

Prerequisite: course 180.

An intensive study, principally by the case method, of sales methods from the point of view of the sales manager. Includes the study of merchandising policy, choice of channels of distribution, market research and analysis, prices and credit terms, sales methods and campaigns; organization of sales department, management of sales force, and budgetary control of sales.

†185. Advertising Principles. (3) I, II.**Mr. Brown**

Prerequisite: course 180.

A survey of the field of advertising—its use, production, administration, and economic implications. Includes the study of advertising psychology, practice in the preparation of advertisements, consideration of the methods of market research and copy testing, and analysis of campaign planning and sales coördination.

†186. Retail Store Management. (3) II.**Mr. Cassady**

A study of retailing methods from the standpoint of the owner and manager. Includes the case study of purchasing, planning stocks, inventory methods, arithmetic of markup, accounting for stock control, pricing, style merchandising, store layout, and store location.

†199A-199B. Special Problems in Business Administration. (2-2) Yr.**The Staff**

Prerequisite: senior standing, six units of upper division courses in business administration, and the consent of the instructor.

† Open only to students registered in College of Business Administration and to graduate students who have had the necessary preliminary preparation.

GRADUATE COURSES

- | | |
|---|---------------|
| 235. Money Rates and Money Markets. (2) II. | Mr. Burtchett |
| 254. Seminar in Finance. (2) I. | Mr. Burtchett |
| 260. Seminar in Accounting Theory. (2) II. | Mr. Noble |
| 261A-261B. Seminar in Accounting Problems. (2-2) Yr. | Mr. Frisbee |
| 265. Seminar in Governmental and Institutional Accounting. (2) I. | Mr. Frisbee |
| 270. Seminar in Marketing Institutions. (2) I. | Mr. Cassidy |
| 271. Seminar in Market Price Policies. (2) II. | Mr. Cassidy |

COMMERCE

- | | |
|---|-------------|
| ‡A. Typing. (No credit) I, II.
Fee, \$6.
A study of the principles involved in learning to use the typewriter. | Mrs. Allen |
| ‡B. Shorthand. (No credit) I, II.
Fee, \$10.
A study of the beginning principles of Gregg shorthand. Sight reading, penmanship drills, dictation. | Mrs. Allen |
| 16. Advanced Typing. (2) I, II.
Prerequisite: Commerce A or the equivalent. Fee, \$2.50.
A study of the principles and practice of teaching typing. Business letters, outlines, legal papers, filing, tabulation. Technique emphasized. | Mrs. Allen |
| 17. Shorthand. (3) I, II.
Prerequisite: Commerce B or the equivalent.
A study of the principles and practice of teaching shorthand. The completion of the Gregg Manual. Advanced reading, dictation, transcription. | Mrs. Allen |
| 18A. Penmanship. (2) I, II.
A study of the principles of business handwriting; a survey of the methods of teaching penmanship in the elementary schools. | Mrs. Plough |
| 18B. Penmanship. (2) I, II.
Prerequisite: course 18A.
Advanced study and practice in handwriting; a survey of the methods of teaching penmanship in the secondary schools. | Mrs. Plough |

PROFESSIONAL COURSES IN METHOD

- | | |
|--|------------|
| 370A. Methods of Teaching Commercial Subjects. (2) I.
A study of the principles and problems of teaching commercial subjects in the secondary schools. | Mrs. Allen |
| 370B. Commercial Education. (2) II.
Educational institutions offering training in commerce. These include the secondary school, the university, the business school, the correspondence school and many others. Emphasis is placed on the secondary school. | Mr. Keeler |

‡ Although Commerce B gives no credit, it is counted on a student's allowable program as two units. Commerce A may be added to the allowable program.

CHEMISTRY

FRANCIS E. BLACET, Ph.D., Associate Professor of Chemistry.

WILLIAM R. CROWELL, Ph.D., Associate Professor of Analytical Chemistry.

MAX S. DUNN, Ph.D., Associate Professor of Chemistry.

JAMES B. RAMSEY, Ph.D., Associate Professor of Chemistry.

G. ROSS ROBERTSON, Ph.D., Associate Professor of Organic Chemistry.

HOSMER W. STONE, Ph.D., Associate Professor of Chemistry.

WILLIAM G. YOUNG, Ph.D., Associate Professor of Chemistry (Chairman of the Department).

CHARLES D. CORYELL, Ph.D., Assistant Professor of Chemistry.

THEODORE A. GRISSMAN, Ph.D., Instructor in Chemistry.

THOMAS L. JACOBS, Ph.D., Instructor in Chemistry.

JAMES D. McCULLOUGH, Ph.D., Instructor in Chemistry.

Admission to Courses in Chemistry.—Regular and transfer students who have the prerequisites for the various courses are not thereby assured of admission to those courses. The department may deny admission to any course if the grade of D has been received in a course prerequisite to that course, or if in the opinion of the department the student shows other evidence of inadequate preparation. Evidence of adequate preparation may consist of satisfactory grades in previous work, or in a special examination, or in both. For each course which involves a limitation of enrollment and which requires a qualifying examination or other special prerequisite, an announcement will be posted before the first day of registration, in each semester, on the Chemistry Department bulletin board. No regular or transfer student should enroll in any course without first consulting a department adviser who will furnish more specific information regarding limitations in enrollment.

Letters and Science List.—All undergraduate courses in chemistry except 10 are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Required: Chemistry 1A-1B, Physics 1A-1C, trigonometry, Mathematics 8, 3A-3B, 4A, and a reading knowledge of German. Recommended: a second course in chemistry, Physics 1D, Mathematics 4B.

Students are warned that the lower division curriculum prescribed for the College of Chemistry at Berkeley (see page 72) does not meet the requirements for the Junior Certificate in the College of Letters and Science at Los Angeles.

The Major.—All units in chemistry in excess of fourteen are counted as upper division units when taken by a student in the upper division. The minimum requirement for the major is: Chemistry 6A-6B (6), 8 and 9 (6), 110A-110B (6), 111A-111B (4). The remainder of the twenty-four required upper division units may be taken in chemistry or allied subjects in accordance with some definite plan approved by the department.

Laboratory Fees.—These fees cover the cost of material and equipment used by the average careful student. Any excess over this amount will be charged to the individual responsible. The fees are as follows: Courses 1A, 1B, \$14; 2A, 2B, \$10; 6A, 6B, \$17; 9, \$27; 10, \$10; 101, \$27; 107A, 107B, \$15; 111A, 111B, \$12; 120, \$17; 103, 199, \$15.

LOWER DIVISION COURSES

Certain combinations of courses involve limitations of total credit, as follows: 2A and 1A, five units; 2A-2B and 1A, eight units; 2A and 1A-1B, ten units; 2A-2B and 1A-1B, ten units.

1A. General Chemistry. (5) I, II.

Mr. McCullough, Mr. Stone

Lectures, three hours; laboratory and quiz, six hours. Fee, \$14.

Prerequisite: high school chemistry, or its equivalent.

A basic course in principles of chemistry with special emphasis on chemical calculations. Required in the Colleges of Agriculture, Chemistry, Engineering, and of preidental, premedical, premining, prepharmacy and preoptometry students; also of majors in applied physics, bacteriology, chemistry, geology and physics and of medical technicians, and of students in home economics (curriculum C) in the College of Applied Arts.

1B. General Chemistry. (5) I, II.

Mr. Blacet, Mr. Coryell

Lectures, three hours; laboratory and quiz, six hours. Fee, \$14.

Prerequisite: course 1A.

Continuation of course 1A with special applications to the theory and technique of qualitative analysis; periodic system; structure of matter. Required in the same curricula as course 1A.

2A-2B. General Chemistry. (4-4) Yr.

Mr. Dunn

Lectures, three hours; laboratory and demonstrations, three hours.

Fee, \$10 a semester.

A nontechnical course, with illustrated lectures, in the history, techniques, principles, resources, and applications of chemistry; special projects. This course is required of majors in home economics and physical education.

6A. Quantitative Analysis. (3) I, II.

Mr. Crowell, Mr. Stone, Mr. Blacet

Lectures, discussions, and quizzes, two hours; laboratory, six hours.

Fee, \$17.

Prerequisite: course 1A-1B.

Principles and technique involved in fundamental gravimetric and volumetric analyses. Required of chemistry majors, economic geologists, petroleum engineers, sanitary and municipal engineers, medical technicians, and of premedical, College of Chemistry, metallurgy, and certain agriculture students.

6B. Quantitative Analysis. (3) II.

Mr. Crowell

Lectures, discussions, and quizzes, two hours; laboratory, six hours.

Fee, \$17.

Prerequisite: course 6A.

Continuation of course 6A but with greater emphasis on theory. Analytical problems in acidimetry and alkalimetry, oxidimetry, electrolytic deposition, and semiquantitative procedures. Required of chemistry majors, economic geologists, and College of Chemistry students.

8. Organic Chemistry. (3) I, II.

Mr. Robertson, Mr. Jacobs

Prerequisite: course 1A-1B; concurrent enrollment in course 9 is advisable.

An introductory study of the compounds of carbon, including both aliphatic and aromatic derivatives. This course is required of premedical and preidental students, majors in petroleum engineering, sanitary and municipal engineering, chemistry, home economics, some agriculture majors, and College of Chemistry students.

- 9. Methods of Organic Chemistry.** (3) I, II. Mr. Jacobs, Mr. Geissman
Lectures and quizzes on principles of laboratory manipulation, two hours; laboratory, six hours. Fee, \$27.
Prerequisite or concurrent: course 8.
Laboratory work devoted principally to synthesis, partly to analysis. Required of chemistry majors, College of Chemistry students, premedical and pre-dental students, and majors in petroleum engineering.
- 10. Organic and Food Chemistry.** (4) I. _____
Lectures, three hours; laboratory, three hours. Fee, \$10.
Prerequisite: courses 1A and 1B, or 2A-2B.
Arranged primarily for majors in home economics.

UPPER DIVISION COURSES

Certain combinations of courses involve limitation of total credit, as follows:
109A and 110A, three units; 109A-109B and 110A, four units; 109A and 110A-110B, six units; 109A-109B and 110A-110B, six units.

- 101. Organic Synthesis.** (3) II. Mr. Robertson
Lecture, one hour; laboratory, eight hours. Fee, \$27.
Prerequisite: courses 8 and 9 and the ability to read scientific German.
Advanced organic preparations; introduction to research methods.
- 102. Advanced Organic Chemistry.** (3) II. Mr. Robertson
Prerequisite: course 8 and laboratory work in organic chemistry.
Theories of reactions and proofs of structure; isomerism; carbohydrates, alicyclic series, dyes, etc.
- 103. Qualitative Organic Analysis.** (3) I. Mr. Young, Mr. Geissman
Lecture, one hour; laboratory, six hours. Fee, \$15.
Prerequisite: courses 6A-6B, 8, and 9.
Classification, reactions, and identification of organic compounds.
- 107A-107B. Biological Chemistry.** (4-4) Yr. Mr. Dunn
Lectures, two hours; laboratory, six hours. Fee, \$15.
Prerequisite: courses 6A, 8, and 9.
Chemistry of plant and animal substances.
- 109A-109B. General Physical Chemistry.** (2-2) Yr.
Lectures and demonstrations. Mr. Ramsey, Mr. Coryell
Prerequisite: course 6A; Physics 2A, 2B; Mathematics 8. Recommended: course 8; Mathematics 7.
Chemical principles of particular importance in the life sciences and geology. May not be offered as part of the major in chemistry.
- 110A. Physical Chemistry.** (3) I. Mr. Ramsey
Prerequisite: course 6B; Physics 1A, 1C; Mathematics 4A. Required of chemistry majors.
- 110B. Physical Chemistry.** (3) II. Mr. McCullough
Prerequisite: course 110A and Mathematics 4A.
A continuation of course 110A. Required of chemistry majors.

- 111A. Physical Chemistry Laboratory. (2) I.** Mr. Coryell
 Laboratory, six hours. Fee, \$12.
 Prerequisite or concurrent: course 110A.
 Physicochemical problems and measurements. Required of chemistry majors.
- 111B. Physical Chemistry Laboratory. (2) II.** Mr. Ramsey
 Laboratory, six hours. Fee, \$12.
 Prerequisite: course 110A; concurrent: course 110B.
 A continuation of course 111A. Required of chemistry majors.
- 120. Advanced Inorganic Chemistry. (3) I.** Mr. Stone
 Lecture, one hour; laboratory, six hours. Fee, \$17.
 Prerequisite: courses 6A, 6B.
 Preparation and experimental study of substances; factors which influence equilibrium and rate of chemical reactions; correlation with aid of the periodic table.
- 131. Absorption Spectra and Photochemical Reactions. (2) I.** Mr. Blacet
 Prerequisite or concurrent: course 110A.
- 132. X Rays and Crystal Structure. (2) II.** Mr. McCullough
 Prerequisite: course 110A.
 Symmetry of crystals; use of X rays in the investigation of crystal structure.
- 140. Industrial Chemistry. (2) II.** Mr. Crowell
 Prerequisite: course 110A.
 Industrial stoichiometry; behavior of gases; vaporization and condensation; thermochemistry; weight and heat balance of industrial processes, etc. Problems and discussions.
- *194A-194B. Metabolism. (1-1) Yr.** Mr. Dunn
 Prerequisite: courses 107A-107B, or consent of the instructor.
 Metabolism of plant and animal substances.
- 199. Problems in Chemistry. (3) I, II.**
 Fee, \$15. The Staff (Mr. Robertson in charge)
 Prerequisite: junior standing, a good scholastic record, and such special preparation as the problem may demand.

GRADUATE COURSES

- 203. Chemical Thermodynamics. (3) II.** Mr. Ramsey
- 204. The Chemical Bond and Molecular Structure. (3) I.** Mr. Coryell
- 251. Physical Aspects of Organic Chemistry. (3) I.**
 Mr. Robertson, Mr. Young
- 252. Seminar in Organic Chemistry. (3) II.** Mr. Jacobs, Mr. Geissman
- 280A-280B-280C-280D. Selected Problems in Chemistry.**
 (3 to 6 units each semester.) The Staff (Mr. Blacet in charge)
- 290A-290B-290C-290D. Advanced Research in Chemistry.**
 (3 to 6 units each semester.) The Staff (Mr. Blacet in charge)

* Not to be given, 1940-41.

CLASSICS

¹ CASPAR J. KRAEMER, JR., Ph.D., Visiting Professor of Latin.

² ARTHUR PATCH MCKINLAY, Ph.D., Professor of Latin.

FREDERICK MASON CAREY, Ph.D., Associate Professor of Latin and Greek (Chairman of the Department of Classics).

HERBERT BENNO HOFFLEIT, Ph.D., Assistant Professor of Latin and Greek.

DOROTHEA CLINTON WOODWORTH, Ph.D., Assistant Professor of Latin and Greek.

PAUL FRIEDLÄNDER, Ph.D., Lecturer in Latin.

DOROTHY C. MERIGOLD, Ph.D., Supervisor of Training, Secondary.

Letters and Science List.—All undergraduate courses in classical languages are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

The student may take the major in classical languages either in Latin or in Greek.

Preparation for the Major.

A. *Latin.*—Required: four years of high school Latin, or two years of high school Latin and courses 1 and 2; courses 3A–3B, 5A, 5B. Recommended: English, French, German, Greek, Italian, Spanish.

B. *Greek.*—Required: either course 1A–1B or two years of high school Greek; and 5A or 5B, or 100A–100B (which may be taken concurrently with courses 101 and 102); and History 111A–111B. Recommended: English, French, German, Italian, Latin, Spanish.

The Major.

A. *Latin.*—Courses 102, 104A–B–C–D (any two units), 106, 115, 117, 120, 192, plus four units of upper division courses in Latin, English, French, German, Greek, Italian, Spanish, philosophy, ancient or medieval history, to be chosen with the approval of the department.

B. *Greek.*—Courses 101, 102, 103, 104, 105, 114, plus six units of upper division courses in Latin, English, French, German, Spanish, philosophy, ancient or medieval history, to be chosen with the approval of the department.

Requirements for Admission to Graduate Courses.

A candidate for admission to graduate courses in Latin must meet, in addition to the general University requirements, the minimum requirements for an undergraduate major in this department. If the candidate is deficient in this prerequisite he must fulfill it by undergraduate work which is not counted toward his graduate residence.

Requirements for Admission to Candidacy.

1. A reading knowledge of Greek, and of French or German.

2. Completion of course 199A, Sec. 1.

3. An elementary comprehensive examination in Latin literature, Roman history, and Latin composition. The composition requirement may be met by passing Latin 104A–B–C–D with an average of B or better.

¹ In residence first semester only, 1940–41; ² In residence second semester only, 1940–41.

Requirement for Master's Degree.

For the general requirements see page 103. The department favors the Comprehensive Plan.

The following courses in the department do not require a knowledge of Greek or Latin:

Latin 40, 109A-109B, 110A-110B, 140A-140B.

Greek 40, 109A-109B, 140A-140B.

LATIN

LOWER DIVISION COURSES

- A. Beginning Latin. (3) I.** Mrs. Woodworth, Miss Caldwell
- B. Latin Readings. (3) II.** Mrs. Woodworth, Miss Caldwell
Prerequisite: course A or one year of high school Latin.
- GA. Latin Prose Composition. (1) I, II.** Miss Caldwell
Intended primarily for students entering with two years of high school Latin taken at least two years before matriculation in the University.
- GB. Latin Prose Composition. (1) I, II.** Miss Caldwell
Prerequisite: course B or GA, or two or three years of high school Latin.
- 1. Review of Grammar; Ovid. (3) I.** Mrs. Woodworth
Prerequisite: course B or at least two years of high school Latin.
- 2. Vergil. (3) II.** Mrs. Woodworth
Prerequisite: course 1, or course B with special permission of the instructor.
Designed for students who have not studied Vergil in the high school.
- 3A-3B. Latin Prose Composition. (2-2) Yr.** Miss Caldwell
Prerequisite: course 1 or three years of high school Latin.
- 5A. A Survey of Latin Literature. (3) I, II.** Mrs. Woodworth
Prerequisite: course 2 or four years of high school Latin.
- 5B. A Survey of Latin Literature. (3) II.** Mr. McKinlay
Prerequisite: course 5A.
- 40. Latin Roots. (1) I, II.** Mr. Kraemer, Mr. McKinlay
For students who are interested in the many groups of English words which are derived from the Latin. A knowledge of Latin is not required.

UPPER DIVISION COURSES

Courses 102 and 106 are prerequisite to 115, 117, 120, and 191.

- 102. Silver Latin. (3) I.** Mr. Hoffleit
Prerequisite: courses 5A, 5B.
- 104A-104B. Latin Composition. (1-1) Yr.** Mr. Carey
Prerequisite: course 3A-3B.
Ciceronian prose.

§104C-104D. Latin Composition. (1-1) Yr.

Mr. Carey

Prerequisite: course 3A-3B.
Ciceronian prose.

106. Tacitus: Annals. (3) II.

Mr. Carey

Prerequisite: course 102.

‡109A-109B. A Survey of Latin Literature in English. (2-2) Yr.

Mr. Hoffleit

A study of the literature of Rome from Ennius to Apuleius with reading in English; does not count on the major in Latin.

***110A-110B. A Survey of Medieval Latin Literature in English. (2-2) Yr.**

Mr. Carey

An outline of classical culture from St. Augustine to the Renaissance with reading in English. Does not count on the major in Latin.

115. Ovid: Carmina Amatoria and Metamorphoses. (3) I.

Mr. Carey

Prerequisite: courses 102, 106.

117. Lucretius: Selections; Vergil: Eclogues and Georgics. (3) II.

Mr. Hoffleit

Prerequisite: 102, 106

120. Roman Satire. (3) II.

Mr. McKinlay

Prerequisite: courses 102, 106.

140A-140B. Roman Civilization. (2-2) Yr. Mr. Kraemer, Mr. McKinlay

This course will undertake to appraise the accomplishments of Rome and acquaint the student with her significant personalities.

Knowledge of Latin not required.

***191. Cicero: Life and Letters. (3) I.**

Mr. McKinlay

Prerequisite: courses 102, 106.

192. Terence. (3) I.

Mr. Kraemer

Prerequisite: courses 102, 106.

196A-196B. Readings in Medieval Latin. (2-2) Yr.

Mrs. Woodworth

Prerequisite: two years of high school Latin.

Designed as a preparation for students interested in medieval history, Old English, French, Spanish, and Latin.

199A-199B. Special Studies in Latin. (2-2) Yr.

Prerequisite: senior standing and at least twelve units of upper division Latin.

Section 1: Introduction to classical scholarship. Required of candidates for teaching credentials and for the master's degree. Mr. Friedländer

Section 2: Problems in classical philology. Mr. Carey and the Staff

§ Not to be given, 1940-41. Courses 104A and 104B are given in alternation with 104C and 104D. Courses 104C and 104D will be offered in 1941-42. Two units are required of Latin majors.

‡ Not to be given, 1940-41. Greek 109A-109B is ordinarily given in alternation with Latin 109A-109B.

* Not to be given, 1940-41.

GRADUATE COURSES

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|---|----------------|
| *202. Cicero's Philosophical Works. (3) I. | Mr. McKinlay |
| *203. Roman Historians. (3) II. | Mr. McKinlay |
| *204. Roman Prose Writers. (3) I.
Cicero's moral and political essays. | Mr. McKinlay |
| 205. Roman Prose Writers. (3) I.
Latin prose fiction. | Mrs. Woodworth |
| *206. The Roman Epic. (3) II.
The Roman epic from Ennius to Silius Italicus. | Mr. Hoffleit |
| 207. Suetonius (3) I. | Mr. Kraemer |
| 208. Livy. (3) II. | Mr. Hoffleit |
| *252. Seminar in Latin Studies. (3) I.
Linguistics. | Mrs. Woodworth |
| *253. Seminar in Latin Studies. (3) II.
Textual criticism. | Mr. Carey |
| *254. Seminar in Latin Studies. (3) I.
Latin comedy. | Mr. Carey |
| *255. Seminar in Latin Studies. (3) II.
Roman elegy. | Mr. Carey |
| 256. Seminar: Ovid. (3) II. | Mr. Carey |

PROFESSIONAL COURSE IN METHOD

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|---|---------------|
| 370. The Teaching of Latin. (3) I.
Prerequisite: a foreign language minor. | Mrs. Merigold |
|---|---------------|

GREEK

LOWER DIVISION COURSES

- | | |
|---|----------------------------|
| 1A-1B. Greek for Beginners, Attic Prose. (3-3) Yr. | Mr. Hoffleit |
| 5A-5B. Readings in Greek, (2-2) Yr. | Mr. Hoffleit, — |
| 40. Greek Roots. (1) I, II.
For science majors and others interested in an understanding of the terms they meet. A knowledge of Greek is not required. | Mr. Hoffleit, Mr. McKinlay |

UPPER DIVISION COURSES

Courses 101 and 102 are prerequisite to 103, 104, 105, and 114.

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|--|--------------|
| 100A-100B. Prose Composition. (1-1) Yr.
Prerequisite: course 1A-1B. | Mr. Hoffleit |
|--|--------------|

* Not to be given, 1940-41.

101. **Homer: Odyssey; Herodotus: Selections.** (3) I. Mr. Hoffleit
Prerequisite: course 1A-1B.
102. **Plato: Apology and Crito; Lyric Poets.** (3) II. Mr. Hoffleit
Prerequisite: course 101.
103. **Greek Drama: Euripides and Aristophanes.** (3) II. Mr. Carey
Prerequisite: courses 101, 102.
- †104. **Historical Prose: Herodotus and Thucydides.** (3) I. Mr. Carey
Prerequisite: courses 101, 102.
- †105. **Greek Drama: Aeschylus and Sophocles.** (3) II. Mr. Carey
Prerequisite: courses 101, 102.
- 109A-109B. **A Survey of Greek Literature in English.** (2-2) Yr. Mr. Carey
A study of the literature of Greece from Homer to Lucian with reading in English. Does not count on the major in Greek.
114. **Plato: Republic.** (3) I. Mr. Carey
Prerequisite: courses 101, 102.
- 117A-117B. **Greek New Testament.** (1-1) Yr. Mr. Hoffleit
- **140A-140B. **Greek Civilization.** (2-2) Yr. _____
A study of the development of Greek culture and its influence upon the modern world. Does not count on the major in Greek.
- 199A-199B. **Special Studies in Greek.**
Prerequisite: senior standing and at least twelve units of upper division Greek.
Section 1: Greek Epigrams. (1) I. Mr. Friedländer
Section 2: Problems in Classical Philology. (1-4; 1-4) Yr. Mr. Carey and the Staff

RELATED COURSES IN OTHER DEPARTMENTS

- General Philology and Linguistics 150. Introduction to General Language.**
(1) I. Mrs. Woodworth
(See page 166.)
- History 111A-111B. Ancient History.** (3-3) Yr. Mr. Howard
- Philosophy 117. Aristotle.** (2) I. Mr. Friedländer

† Not to be given, 1940-41. Courses 108 and 114 are ordinarily given in alternation with 104 and 105 respectively.

** Not to be given, 1940-41. Greek 140A-140B is ordinarily given in alternation with Latin 140A-140B.

ECONOMICS

- BENJAMIN M. ANDERSON, JR., Ph.D., Professor of Economics.
 EARL JOYCE MILLER, Ph.D., Professor of Economics.
 GORDON S. WATKINS, Ph.D., Professor of Economics.
 *PAUL A. DODD, Ph.D., Associate Professor of Economics.
 LEWIS A. MAVERICK, Ed.D., Ph.D., Associate Professor of Economics.
 DUDLEY F. PEGRUM, Ph.D., Associate Professor of Economics (Chairman of the Department).
 MARVEL M. STOCKWELL, Ph.D., Associate Professor of Economics.
 ROBERT E. RAPP, Ph.D., Assistant Professor of Economics.

MELVILLE H. WALKER, M.A., Lecturer in Economics.

Letters and Science List.—All undergraduate courses in economics are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Required: Economics 1A-1B, Business Administration 1A-1B and either History 4A-4B or History 5A-5B. Economics 40 is required of all majors in economics (unless they are prepared to take Economics 142), but it may be taken in either lower or upper division.

The Major.—Twenty-four upper division units including two units from Economics 100A, 100B, 102, or 103. A maximum of six units may be offered toward the major from the following list of courses: Business Administration 131, 132, 145, 153, 160A-160B, 180, or six upper division units in sociology, or History 112A-112B; the six units must be entirely in one department.

Not more than a total of 30 upper division units in economics and business administration may be counted toward the bachelor's degree.

Students planning to undertake graduate work in economic theory will do well to study mathematics. For those who have not the background or the time for more extended work, Mathematics 7 is recommended.

Laboratory Fee.—Economics 40, \$2.

ECONOMICS

LOWER DIVISION COURSES

- 1A-1B. Principles of Economics. (3-3) Beginning either semester.
 Lectures, two hours; quiz, one hour. Mr. Miller, Mr. Stockwell
40. Economic and Social Statistics. (3) I, II. Mr. Maverick
 Lectures, two hours; laboratory, one two-hour period.
 Prerequisite: sophomore standing. Fee, \$2.
 An introduction to methods of analyzing economic and statistical data, with emphasis on analysis; sources and interpretation of economic and social statistics. Mathematical treatment is reduced to the simplest possible terms.

* Absent on leave, 1940-41.

UPPER DIVISION COURSES

Course 1A-1B is a prerequisite to all upper division courses in economics.

100A. General Economic Theory. (2) I, II.

Mr. Rapp

An introduction to economic theory with emphasis upon its application to practical problems.

100B. Value and Distribution. (2) I.

Mr. Maverick

Not open for full credit to students who have taken course 100A.

Study of the principles of value and distribution under competition, monopoly, and monopolistic competition.

102. Mathematical Economics. (2) I.

Mr. Maverick

Prerequisite: either differential calculus or Mathematics 7.

Demand, supply, cost and prices under conditions of competition and monopoly; general equilibrium.

103. Development of Economic Theory. (2) II.

Mr. Watkins

A study of economic theory by emphasis on historical development of theory of value, production, distribution, population, etc.

106. The History of Utopian Thought. (2) I.

Mr. Watkins

A study of the Utopias that have influenced economic thought from Plato's *Republic* to H. G. Wells' *Modern Utopia*.

***107. Comparative Economic Systems. (2) I.**

Mr. Watkins

The concepts and agencies of economic and social progress; an analysis of the theories and programs of modern reform movements.

131A-131B. Public Finance. (2-2) Yr.

Mr. Stockwell

The principles underlying the raising and spending of public money. Property, income, corporation, inheritance, sales taxes, and other sources of revenue. Public borrowing. Budgetary procedure. Economic and social significance of the fiscal structure and policies.

132. Economics of Industrial Control. (3) II.

Mr. Pegrum

The economic functions of business organizations; the economics of industrial production and pricing; the control of competitive enterprise; combinations and monopolies and their control; governmental regulation.

135. Money and Banking. (3) I, II.

Mr. Anderson

Lectures, two hours; quiz, one hour.

The principles and history of money and banking, with principal reference to the experience and problems of the United States.

136A. Monetary and Financial History, 1913 to 1929. (3) I.

Mr. Anderson

Prerequisite: course 135.

The monetary and financial history, together with the major theoretical issues of the period 1913-1929; although the principal emphasis is laid upon financial conditions in the United States, the international setting is also considered, particularly with reference to England, France, and Germany.

136B. Monetary and Financial History since 1929. (3) II.

Mr. Anderson

Prerequisite: course 135.

This course is a continuation of course 136A, but may be taken separately.

* Not to be given, 1940-41.

137. International Finance. (3) I.

Mr. Walker

An analysis of recent international financial developments with particular attention to intergovernmental loans and reparations, private capital movements, gold flows, etc.

138. Business Cycles. (3) I.

Mr. Maverick

Prerequisite: senior standing.

A study of fluctuations in business, as in prices, production, wages, and profits; whether there is a common or general fluctuation; theories of causation; feasibility of forecasting; adjustment of business management to the cycles; possibility of controlling the cycle or alleviating its social effects.

142. Applied Statistics. (3) II.

Mr. Maverick

Prerequisite: differential calculus.

150. Labor Economics. (3) I.

Mr. Stockwell

The problems of labor; the rise of modern industrialism; the principal causes of industrial strife, and the basis of industrial peace.

***152. Social Insurance. (3) II.**

Mr. Dodd

Basis of the Social Security program; unemployment insurance, workmen's compensation, old age pensions, insurance against sickness.

***155. History of the Labor Movement. (2) I.**

Mr. Dodd

The development of the American labor movement; the structure of unionism; demands and accomplishments of labor. A theory of the labor movement.

171. Public Utilities. (3) I.

Mr. Pegrum

The economics of public service corporations from both the public and private points of view; the economic problems of regulation; problems of finance, rate-making, and valuation; state, national, and international problems arising from the development of public utilities; public ownership.

173. Economics of Transportation. (3) I, II.

Mr. Rapp

A general historical and contemporaneous survey of transportation agencies in the United States; the functions of the different transportation agencies; rate structures; problems of state and federal regulation; coordination of facilities. The current transportation problem.

195. Principles of International Trade. (3) I, II.

Mr. Walker, Mr. Robbins

An introduction to the principles and practices of international trade and foreign exchange. A survey of the historical development of the theories of foreign trade. A brief introduction to methods and practices of exporting and importing.

196. Problems in International Economics. (3) II.

Mr. Walker

Prerequisite: course 195 or the consent of the instructor.

An analysis from the standpoint of international trade theory of problems arising from the unequal distribution of the world's population and resources, with particular reference to the evaluation of present day international economic policies.

* Not to be given, 1940-41.

GRADUATE COURSES

- 201A-201B. **History of Economic Doctrine.** (3-3) Yr. Mr. Watkins
214. **Economic Theory.** (3) I. Mr. Pegrum
The basic principles of economic theory; the nature of economic science; consumption, production, value and price, distribution.
215. **Economics of Production.** (3) II. Mr. Pegrum
Production economics; competition; imperfect competition; monopoly; overhead costs; the planning of production.
232. **The Relations of Government to Economic Life.** (3) I. Mr. Pegrum
A study of government in economic life with special reference to institutional factors, economic problems of regulation, and economic planning.
233. **Public Finance.** (2) II. Mr. Stockwell
235. **Monetary Theory.** (2) II. Mr. Anderson
238. **Economic Fluctuations.** (2) II. Mr. Maverick
- *240. **Social Insurance.** (2) II. Mr. Dodd
255. **Value and Distribution. Seminar.** (2) I. Mr. Anderson
Prerequisite: the consent of the instructor.
- *256. **Economics of Welfare. Seminar.** (3) II. _____
- *258. **Recent Developments in Economic Theory. Seminar.** (2) I. _____

* Not to be given, 1940-41.

EDUCATION

MERTON E. HILL, Ed.D., Professor of Education.

DAVID F. JACKEY, Ph.D., Professor of Vocational Education.

EDWIN A. LEE, Ph.D., Professor of Education (Chairman of the Department).

*KATHERINE L. McLAUGHLIN, Ph.D., Professor of Education.

JUNIUS L. MERIAM, Ph.D., Professor of Education.

ERNEST CARROLL MOORE, Ph.D., LL.D., Professor of Education and Philosophy.

CHARLES WILKIN WADDELL, Ph.D., Professor of Education.

J. HAROLD WILLIAMS, Ph.D., Professor of Education.

FREDRIC P. WOELLNER, Ph.D., Professor of Education.

JESSE A. BOND, Ed.D., Associate Professor of Education.

HARVEY L. EBY, Ph.D., Associate Professor of Education.

CLARENCE HALL ROBISON, Ph.D., Associate Professor of Education.

ETHEL I. SALISBURY, M.A., Associate Professor of Elementary Education.

WILLIAM A. SMITH, Ph.D., Associate Professor of Education.

MAY V. SEAGOE, Ph.D., Assistant Professor of Education.

CORINNE A. SEEDS, M.A., Assistant Professor of Elementary Education.

DONALD G. STEWART, A.B., Assistant in Education.

HELEN CHRISTIANSON, Ph.D., Lecturer in Education.

An undergraduate major is not offered in the Department of Education* at Los Angeles. Students desiring to qualify for certificates of completion leading to teaching and administration credentials should consult the ANNOUNCEMENT OF THE SCHOOL OF EDUCATION, LOS ANGELES.

The College of Letters and Science

Letters and Science List.—Courses 101A-101B, 102, 106, 110, 111, 112, 114, 119, 170 are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

UPPER DIVISION COURSES

History and Theory of Education

101A-101B. History and Philosophy of Education. (3-3) Yr. Mr. Moore

The story of instruction from its beginning in Greece; the account of Athens, the practices of the Athenians and the critical thinking of Socrates, Plato, and Aristotle; Roman education, Christianity and the teaching of the Church; the Renaissance and the Reformation.

* In residence second semester only, 1940-41.

* Until September 15, 1948 students registered as majors in education in the Teachers College prior to July 1, 1939, may complete requirements for the degree of Bachelor of Education and for teaching credentials, under the requirements of that college as listed in the General Catalogue of the Departments at Los Angeles, 1938-39.

102. History of American Education. (3) I, II.

Mr. Robison

The development of significant educational movements in the United States as a basis for analysis of present-day problems.

106. The Principles of Education. (3) I, II.

Mr. Lee

A critical analysis of the assumptions underlying education in a democratic social order.

Educational Psychology

Psychology 21, 22, or the equivalent, are prerequisite to all courses in educational psychology.

110. The Conditions of Learning. (3) I, II.

Miss Seagoe

Speech, writing, number, literature, science considered as social institutions evolved through coöperative intellectual effort. Analysis of the conditions under which the child attains most effective mastery of these skills and knowledges.

111. Growth and Development of the Child. (3) I, II.

Miss McLaughlin, Mr. Waddell

A study of intellectual, emotional, and social development during childhood and adolescence. Particular attention is given to problems of mental hygiene during critical growth periods.

112. Adolescence. (3) I, II.

Mr. Waddell

The physical, mental, moral and social traits of adolescence with special reference to their bearing upon problems of instruction in junior and senior high schools.

114. Educational Statistics. (2) I.

Mr. Williams

Statistical procedures applicable to educational problems and educational research.

119. Educational Measurement. (2) I, II.

Miss Seagoe

Use of standardized tests in problems of group and individual diagnosis and evaluation.

*Early Childhood Education***123. Social Backgrounds of Child Development. (3) I.** Miss Christianson

A study of the factors conditioning growth, development, and learning in early childhood.

124. Arts in Childhood Education. (3) II.

Miss Christianson

Prerequisite: course 111.

The functional values of music, speech, rhythm, and dramatic play in early child development.

125A. Kindergarten-Primary Education. (3) I.

Miss McLaughlin

Prerequisite: courses 110, 111.

Required for the Kindergarten-Primary teaching credential.

Reading and literature in the lower school, including aims, standards of attainment, materials, and technique of teaching.

125B. Kindergarten-Primary Education. (3) II.

Miss McLaughlin

Prerequisite: course 125A.

Required for the Kindergarten-Primary teaching credential.

Organization, curricula, and procedures in the nursery school, Kindergarten, and primary grades.

*Elementary Education***136. Rural School Curriculum Adaptations. (3) I, II.**

Mr. Eby

The development and direction of the curriculum in a rural school situation; the availability and use of the educational resources in the local environment.

139. The Elementary Curriculum. (3) I, II.

Mr. Meriam

Prerequisite: senior standing.

An introduction to the problem of curriculum organization as exemplified in representative courses of study. Emphasis is laid on the planning of activity units appropriate to the varying maturity levels of children.

*Educational Administration and Supervision***140. The Teacher and Administration. (2) I, II.**

Mr. Robison

The teacher considered as a part of the educational system and his responsibilities to the organization.

142. State and County School Administration. (2) I.

Mr. Robison

The organization and administration of state school systems with special reference to the interrelation of federal, state, and county support and organization.

147. Rural School Administration. (3) I.

Mr. Eby

A consideration of the problems, principles, and methods involved in the administration of a rural school system.

148. Legal Bases of Public Education in California. (2) II.

Mr. Robison

Organization and administration of the California school system, as given in the school law of the state and as interpreted by the rulings of the State Superintendent of Public Instruction and the Attorney General.

*Vocational Education***160. Vocational Education. (2) I.**

Mr. Jackey

An attempt to develop an understanding and appreciation of the economic and social significance of vocational education in a democracy.

164. Vocational Guidance. (2) II.

Mr. Jackey

The need of vocational guidance in a changing industrial order. The technique of guidance, as exemplified in case studies.

*Secondary Education***170. Secondary Education. (3) I, II.**

Mr. Smith

Prerequisite: senior standing and Psychology 21, 22.

A study of secondary education in the United States, with special reference to the needs of junior and senior high school teachers.

Social and Adult Education

- 180. Social Foundations of Education.** (3) I, II. Mr. Woellner
Education as a factor in social evolution. Analysis of current educational practices in the light of modern social needs.
- 181. Adult Education.** (2) I, II. Mr. Woellner
An analysis of the adult education movement to ascertain principles for organizing and conducting special and evening classes for mature students. Problems of citizenship, Americanization, and vocational and liberal education will be considered.
- 185. Rural Society and Education.** (3) I, II. Mr. Eby
A study of the social-economic problems and needs in rural communities as affecting rural education.
- 199. Studies in Education.** (2 to 4 each semester.)
Open to senior and graduate students with the permission of the instructor.
- | | |
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| Section 1. Administration. I, II. | Mr. Hill |
| Section 2. Curriculum. I, II. | Mr. Meriam |
| Section 3. Educational Psychology. II. | Miss Seagoe |
| Section 4. Rural Education. II. | Mr. Eby |
| Section 5. Administration of Secondary Education. I. | _____ |

GRADUATE COURSES†

- **240. Organization and Administration of Education.** (2) I, II. _____
- **241. City School Administration.** (2) II. _____
- 243. Administration of Secondary Education.** (2) II. Mr. Hill
- 251A-251B. Elementary Administration and Supervision. Seminar.** (2-2) Yr. Mr. Waddell
- §253A-253B. Early Childhood Education. Seminar.** (2-2) Yr. Miss McLaughlin
- 254. Experimental Education. Seminar.** (2) I. Mr. Williams
- 255. School Surveys. Seminar.** (2) II. Mr. Williams
- 270A-270B. Secondary Education. Seminar.** (2-2) Yr. Mr. Smith
- **275A-275B. Problems in Secondary Education.** (2-2) Yr. _____
- 276A-276B. Research in Curriculum.** (1-4; 1-4) Yr. Mr. Meriam
- 279. Problems in Junior College Administration.** (2) I. Mr. Hill

† A thesis is required of all candidates for the master's degree.

** Tentative.

§ Not to be given first semester, 1940-41.

COURSES PREPARATORY TO SUPERVISED TEACHING

330. Introduction to Elementary Teaching. (4) I, II. Miss Seeds
Prerequisite: courses 110, 111, and a C average or better in all work taken in the University of California.

An intensive study of the principles of teaching made effective by assigned reading, observation, participation, analysis of teaching problems, and preparation of units of work.

This course precedes by one semester all teaching in kindergarten-primary and general elementary grades. All students in these fields must enroll for this course not later than the first half of the senior year.

370. Introduction to Secondary Teaching. (3) I, II. Mr. Bond
Prerequisite: regular graduate status; a minimum of six units in education, including course 170 and a selection from: courses 101A-101B, 102, 106, 112 (or Psychology 110), 180.

An intensive study of teaching and learning in the secondary school. This course is prerequisite to courses G377, G378 and G379, and is so conducted as to prepare for and lead to definite placement in actual supervised teaching.

SUPERVISED TEACHING

The prerequisites for admission to courses in supervised teaching are: senior standing (regular graduate status for courses G377, G378, G379); satisfactory scholarship*; and approval by a University physician before each assignment.

All candidates for supervised teaching must make formal application at the office of the Director of the Training Department about the middle of the semester preceding that in which such teaching is to be done. For the last dates of application without late fee, see the Calendar, pages 8, 9.

All courses are offered each semester.

*For Kindergarten-Primary, General Elementary and General
Junior High School Credentials*

K335A-K335B. Kindergarten-Primary. (4-4).

E335A-E335B. General Elementary. (4-4).

E336. General Elementary; Additional. (1 to 4).

J374. General Junior High School. (2 to 6).

For Special Secondary Credentials

A375. Art. (3 to 4).

A376. Art; Additional. (1 to 4).

B375. Business Education. (3 to 4).

B376. Business Education; Additional. (1 to 4).

* Not less than a C average in all work in the University of California; not less than a C average in all courses in education; and not less than a C average in all work in the major.

H375. Home Economics. (3 to 4).

H376. Home Economics; Additional. (1 to 4).

MA375. Mechanic Arts. (3 to 4).

MA376. Mechanic Arts; Additional. (1 to 4).

M375. Music. (3 to 4).

M376. Music; Additional. (1 to 4).

P375. Physical Education. (3 to 4).

P376. Physical Education; Additional. (1 to 4).

For General Secondary and Junior College Credentials

G377. Supervised Teaching, General Secondary. (4) I, II. **Mr. Bond**
Prerequisite: course 370.

Supervised teaching consisting of participation in the instructional activities of one high school class for one semester. This course is accompanied by a required conference each week with the Director or special supervisor. Hours for teaching by individual arrangement.

G378. Practicum in Supervised Teaching. (1-4) I, II. **Mr. Bond**
Prerequisite: courses 370 and G377 or the equivalent; or public school experience and approval of instructors.

A short course in secondary teaching designed for (1) those experienced in public school teaching who need to improve their teaching techniques; (2) those seeking general secondary or junior college credentials after having completed the supervised teaching required for some other type of credential; (3) those who wish to elect types of classroom or nonclassroom experience not provided in their previous training.

G379. Supervised Teaching, Junior College. (4) I, II. **Mr. Bond**
Prerequisite: course 370.

Restricted to candidates for the junior college credential alone who are teaching classes in the University. Enrollment after consultation with the instructors in charge.

Teaching in lower division, observation in near-by junior colleges, reports, and conferences.

ENGLISH

- FREDERIC THOMAS BLANCHARD, Ph.D., Professor of English.
 LILY B. CAMPBELL, Ph.D., Professor of English.
 SIGURD BERNHARD HUSTVEDT, Ph.D., Professor of English.
 DIXON WECTER, Ph.D., Professor of English.
 *ALFRED E. LONGUEIL, Ph.D., Associate Professor of English (Chairman of the Department).
 HERBERT F. ALLEN, Ph.D., Associate Professor of English, Emeritus.
 BRADFORD A. BOOTH, JR., Ph.D., Assistant Professor of English.
 LLEWELLYN MORGAN BUELL, Ph.D., Assistant Professor of English.
 MARGARET SPRAGUE CARHART, Ph.D., Assistant Professor of English.
 CARL SAWYER DOWNES, Ph.D., Assistant Professor of English.
 MAJL EWING, Ph.D., Assistant Professor of English.
 EDWARD N. HOOKER, Ph.D., Assistant Professor of English.
 GEORGE SHELTON HUBBELL, Ph.D., Assistant Professor of English.
 WESLEY LEWIS, Ph.D., Assistant Professor of Public Speaking.
 HARRIET M. MACKENZIE, Ph.D., Assistant Professor of English.
 WILLIAM MATTHEWS, Ph.D., Assistant Professor of English.
 *FRANKLIN PRESCOTT ROLFE, Ph.D., Assistant Professor of English.
 HUGH GILCHRIST DICK, Ph.D., Instructor in English.
 ALICE O. HUNNEWELL, B.L.I., Instructor in English.
 CLAUDE JONES, Ph.D., Instructor in English.
 HARRISON M. KAER, Ph.D., Instructor in Public Speaking.
 JAMES MURRAY, Ed.D., Instructor in Public Speaking.
 JAMES E. PHILLIPS, JR., Ph.D., Instructor in English.
 HUGH THOMAS SWEDENBERG, Ph.D., Instructor in English.
-
- RALPH FREUD, Lecturer in Public Speaking.
 *LEE S. HULTZÉN, Ph.D., Lecturer in Public Speaking.
 JOHN F. ROSS, Ph.D., Lecturer in English.
 DANIEL VANDRAEGEN, M.A., Lecturer in Public Speaking.
 LOUIS B. WRIGHT, Ph.D., Lecturer in English.

Students must have passed Subject A (either examination or course) before taking any course in English or public speaking. Regulations concerning Subject A will be found on page 88 of this Catalogue.

Letters and Science List.—All undergraduate courses in English and public speaking are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Courses 1A-1B and 36A-36B or the equivalent, with an average grade of C or higher; History 5A-5B or the equivalent.

* In residence first semester only, 1940-41; * in residence second semester only, 1940-41.

Recommended: Ancient and modern foreign languages. A reading knowledge of French or German is required for the M.A. degree. For the Ph.D. degree a reading knowledge of both French and German is required; a reading knowledge of Latin is essential for work in some fields.

The Major.—1. Students must present, in the first half of the junior year, a program to be examined and approved by the departmental adviser to upper division students. The program may be amended from time to time after consultation with the department representative.

2. The program must comprise 24 units of upper division courses, including (1) English 117J, to be taken in the junior year; (2) one of the type courses; (3) two of the Age courses; (4) English 151L, to be taken in the senior year. Public Speaking 165 and 166 may be applied toward the English major.

3. The student must maintain an average grade of C in upper division English courses, and at the end of the senior year must pass a comprehensive final examination.

A. Requirements for the General Secondary Credential.

1. For the field major in English and Speech.

(a) The completion of the following: (1) English 1A-1B, 36A-36B; (2) six units from Public Speaking 1A, 2A, 2B; (3) English 106 or 31; 117J; 130A-130B or 190A-190B; 115 or 153; (4) six units from English 114A-114B, 122A-122B, 125C-125D, 125G-125H; (5) six units from English 156, 157, 167, 177, 187; (6) six units from Public Speaking 111C-111D, 122, 155A-155B, 156, 165; (7) English 370, to be taken in the first semester of graduate residence; (8) six units of courses in the 200 series or their equivalent, to be selected after consultation with the adviser.

(b) The passing of the Senior Comprehensive Final Examination with a grade of C or better.

2. For the field minor in English and speech, the completion of the following courses: (1) English 1A-1B, 36A-36B; (2) three units from Public Speaking 1A, 2A; (3) English 106 or 31; 117J; (4) six units from English 114A-114B, 115, 125C-125D, 130A-130B, 153, 190A-190B.

B. Requirements for Admission to Graduate Courses.

Ordinarily the undergraduate major in English or its equivalent. (No graduate student may take a graduate course in English who has to his credit fewer than twelve units in upper division major courses in English.) This requirement is prerequisite to the twenty-four units demanded for the master's degree. If the candidate is deficient in this prerequisite, he must fulfill it by work undertaken as a graduate student.

C. Requirements for the Master's Degree.

1. For the general requirements, see page 103. The department follows Plan II.

2. Departmental requirements: (a) Students are required to take the reading test in French or German at the beginning of the first semester of residence. (b) They must pass a preliminary general examination, set by the department toward the middle of each semester. Those who have passed the Senior English Comprehensive Examination with a grade of B will be excused from this examination. (c) They must complete English 200, Bibliography (offered in the first semester only), and three units from English 208, 209, 211A, 212. (d) Students should choose the allowable 12 undergraduate units from the Age courses, and Public Speaking 165, 166.

D. Requirements for the Doctor's Degree.

1. For the general requirements, see page 106.
2. Departmental requirements: (a) On entering the department, candidates will present to the chairman a written statement of their preparation in French, German, and Latin. They must take the reading test in one of the two required modern foreign languages (French and German) at the beginning of the first semester of residence, the test in the other not later than the beginning of the third semester of residence. For work in some fields a reading knowledge of Latin will be necessary. (b) Candidates must complete English 200, Bibliography, at the first opportunity. For other course requirements, consult the department.
3. The qualifying examination for advancement to candidacy will consist of two parts: (a) English language—a six-hour written examination covering the history, structure, and literary use of the English language from the beginning to the present; this part of the examination should be taken at least three semesters before the date at which the student expects to receive the degree. (b) English literature—a general examination, written and oral, covering English literature in all its phases from the beginning to the present. The written section will be set in five three-hour sections covering the main periods of English literature, with particular emphasis on the candidate's special field. The oral section will be at least two hours in length. This examination should be taken at least two semesters before the date at which the student expects to receive the degree.

LOWER DIVISION COURSES*Freshman Courses*

- 1A-1B. First-Year Reading and Composition.** (3-3) Beginning either semester. Mr. Rolfe in charge
Open to all students who have received a passing grade in Subject A.
- *4A. World Literature: Dramatic Comedy.** (1) I. Mr. Longueil in charge
- *4B. World Literature: Dramatic Tragedy.** (1) II. Mr. Longueil in charge
- 4C. World Literature: the Novel.** (1) I. Mr. Longueil in charge
- 4D. World Literature: Famous Utopias.** (1) II. Mr. Longueil in charge
- *5A-5B. Great Books.** (1-1) Yr. Mr. Longueil in charge

Sophomore Courses

English 1A-1B is prerequisite to all sophomore courses in English except course 40.

- 31. Intermediate Composition.** (2) I, II. Mr. Ewing in charge
- 36A. Survey of English Literature, 1500 to 1700.** (3) I, II. Mr. Rolfe in charge
- 36B. Survey of English Literature, 1700 to 1900.** (3) I, II. Mr. Rolfe in charge
- 40. Introduction to English Literature.** (3) I, II. Mr. Ewing, Miss Carhart
Open, without prerequisite, to all students except those who have credit for course 36A-36B.

* Not to be given, 1940-41.

UPPER DIVISION COURSES

Courses 1A-1B and 36A-3B are prerequisite to all upper division courses in English, except 190A-190B, for which only 1A-1B is prerequisite. Students who have not passed English 31 will be admitted to 106A, 106C, and 106F only upon a test given by the instructor.

A. *The Junior Course*: Course 117J. Required of juniors whose major or minor subject is English.

B. *The Type Courses*: Courses 114A-114B, 122A-122B, 125C-125D, and 125G-125H. It is understood that major students in English will take one of these courses.

C. *The Age Courses*: Courses 156, 157, 167, 177, and 187. It is understood that major students in English will take two of these courses.

D. *General Courses*: Courses 106A, 106C, 106F, 110, 115, 130A-130B, 131, 132, 153, and 190A-190B.

E. *The Senior Course*: Course 151L. Required of seniors whose major subject is English.

106A. *The Short Story*. (2) I, II. Mr. Hubbell

106C. *Critical Writing*. (2) I, II. Mr. Downes

106F. *Exposition*. (2) I, II. Miss Carhart, Mr. Rolfe

110. *Introduction to the English Language*. (3) I, II. Mr. Matthews

114A-114B. *English Drama from the Beginning to the Present*. (3-3) Yr.
Miss Campbell

115. *Primitive Literature*. (3) II. Miss MacKenzie

The study of primitive types, such as the fable, folk tale, myth, legend, ballad, and hero tale, as to characteristics and theories of origin and diffusion. The comparative study of typical stories, and the work of collectors and adapters.

117J. *Shakespeare*. (3) I, II. Miss Campbell, Mr. Longueil, Mr. Buell

A survey of from twelve to fifteen plays, with special emphasis on one chronicle, one comedy, and one tragedy.

*122A-122B. *English Poetry from the Beginning to the Present*. (3-3) Yr.
Mr. Longueil

125C-125D. *The English Novel from the Beginning to the Present*. (3-3) Yr.
Mr. Blanchard

125G-125H. *English Prose from the Beginning to the Present*. (3-3) Yr.
Mr. Ewing

130A-130B. *American Literature*. (2-2) Yr. Mr. Downes, Mr. Hubbell

A survey of American literature from the beginning to 1860, and from 1860 to the present day; a study of the chief American writers, with special reference to the development of literary movements and types.

* Not to be given, 1940-41.

131. American Literature: the Flourishing of New England. (3) I.

Mr. Weeter

The study of such figures as Emerson, Hawthorne, Thoreau, Prescott, Longfellow, Lowell, and Holmes, with particular emphasis on the interaction between American and European literature and thought in the period.

132. American Literature: the Age of Exile. (3) II.

Mr. Weeter

American world-wanderers and the American and European environment; the study of such figures as Melville, Bayard Taylor; Lafcadio Hearn and the Orient; Mark Twain, the traveler and critic; Stephen Crane; Henry Adams; Henry James; George Santayana; T. S. Eliot.

151L. Chaucer. (3) I, II.

Mr. Hustvedt, Mr. Longueil

153. Introduction to the Study of Poetry. (3) I, II.

Mr. Longueil, Miss MacKenzie

155. Literary Criticism. (3) I, II.

Mr. Blanchard

156. The Age of Elizabeth. (3) I, II.

Miss Campbell

157. The Age of Milton. (3) I, II.

Mr. Hustvedt

167. The Age of Pope and Johnson. (3) I, II.

Mr. Weeter

177. The Romantic Age: 1784-1832. (3) I.

Mr. Longueil

187. The Victorian Age: 1832-1892. (3) II.

Mr. Rolfe

190A. Literature in English from 1900. (2) I.

Mr. Ewing

Criticism; the novel; biography.

190B. Literature in English from 1900. (2) II.

Mr. Ewing

Poetry; the drama; the essay.

199. Special Studies in English. (3) I, II.

Mr. Booth, Mr. Swedenberg

Limited to seniors; may be taken only once for credit.

The topics for 1940-41 are: I, Swift and his Circle (Mr. Swedenberg); II, Scottish Writers in English from Burns to Barrie (Mr. Booth).

COMPREHENSIVE FINAL EXAMINATION

The Comprehensive Final Examination in the undergraduate major in English must be taken at the end of the senior year. It will consist of one two-hour paper and one three-hour paper. The examination will cover English literature from the beginning to 1900. The papers will be set by the examining committee of the department. The student's preparation for this examination will presumably extend throughout the entire college course.

This examination is not counted as part of the 24-unit major but is counted on the 36-unit upper division requirement and on the 120 units required for graduation. It does not affect study-list limits, and should at no time be entered by the student upon his study list. However, the student is advised to limit his program to 13 units during his last semester. Upon his passing the examination the grade assigned by the department will be recorded. Given each semester; credit, 3 units.

PROFESSIONAL COURSE IN METHOD

370. The Teaching of English. (3) I, II.

Miss MacKenzie

May be counted as part of the 18 units in education required for the secondary credential. Required of candidates for the General Secondary Credential in English.

GRADUATE COURSES

200. Bibliography. (3) I.

Mr. Wright

208. The Development of Modern English. (3) I.

Mr. Matthews

*209. History of the English Language. (3) II.

Mr. Matthews

211A. Old English. (3) I.

Mr. Matthews

211B. Beowulf. (3) II.

Mr. Matthews

212. Middle English Literature. (3) II.

Mr. Matthews

*215. English Literature of the 17th Century. (3) I.

Mr. Hustvedt

217A-217B. Shakespeare. (3-3) Yr.

Miss Campbell

*222. Shakespearean Tragedy: A Critical Study. (3) I.

Miss Campbell

*223. Shakespearean Comedy: A Critical Study. (3) II.

Miss Campbell

225A-*225B. The Ballad. (3-3) Yr.

Mr. Hustvedt

226. Sir Walter Scott: The Ballads and Romances. (3) II.

Mr. Hustvedt

*227. Early English Metrical Romances. (3) I.

Mr. Hustvedt

230A. American Literature to 1850. (3) I.

Mr. Wecter

230B. American Literature from 1850. (3) II.

Mr. Wecter

*231. Marlowe. (3) II.

Miss Campbell

*235A. The English Novel: 1700-1750. (3) I.

Mr. Blanchard

*235B. The English Novel: 1750-1800. (3) II.

Mr. Blanchard

*239. Milton. (3) II.

Mr. Hustvedt

242. Fielding. (3) I.

Mr. Blanchard

*243. Dryden and His Contemporaries. (3) I.

Mr. Hooker

244. Pope and His Contemporaries. (3) II.

Mr. Hooker

*245. Spenser. (3) I.

Miss Campbell

247. Phases of Neo-Classicism. (3) I.

Mr. Hooker

*248A-248B. English Literary Criticism. (3-3) Yr.

Mr. Blanchard

250. The Theory of Fiction (1600-1700). (3) II.

Mr. Blanchard

290. Special Problems. (1-6) I, II.

The Staff

* Not to be given, 1940-41.

PUBLIC SPEAKING†

LOWER DIVISION COURSES

- 1A-1B. Elements of Public Speaking.** (3-3) Beginning each semester.
Mr. Karr, Mr. Lewis, Mr. Murray, Mr. Hultzén
- 2A-2B. The Fundamentals of Expression and Interpretation.** (3-3) Beginning each semester.
Mrs. Hunnewell, Mr. Freud
- 5A-5B. Principles of Argumentation.** (3-3) Yr. Mr. Lewis
Prerequisite: course 1A-1B and the consent of the instructor.

UPPER DIVISION COURSES

- 110A. Third-Year Public Speaking.** (3) I. Mr. Lewis
Prerequisite: course 5A-5B.
Oral argumentation and debate; preparation of briefs; presentation of arguments.
- 110B. Third-Year Public Speaking.** (3) II. Mr. Lewis
Prerequisite: course 110A and the consent of the instructor.
Practice in extemporaneous speaking; preparation of the occasional address.
- 111C-111D. Literary Interpretation.** (3-3) Yr. Mrs. Hunnewell
Prerequisite: course 2A-2B.
The dramatization of one novel, the oral reading and classroom presentation of selected one-act plays, and the study and abridgment of one three-act play in relation to public reading technique.
- 122. Diction and Voice.** (3) I, II. Mr. Karr
- 155A-155B. Play Production.** (3-3) Yr. Mr. Freud
- 156. Play Directing.** (3) I, II. Mr. Freud
Study and practice in the direction of plays and group activities of a dramatic nature.
- 165. Phonetics and American Pronunciation.** (3) II. Mr. Hultzén
May be applied toward the English major. Recommended for graduate students.
- *166. History of Rhetorical Theories.** (3) II. Mr. Hultzén
May be applied toward the English major. Recommended for graduate students.
- *170. Introduction to Oratory.** (3) II. Mr. Hultzén
- 190A-190B. Forensics.** (1-1) Yr. Mr. Lewis
Prerequisite: consent of the instructor.

† The University of California at Los Angeles does not offer a major in public speaking. Students wishing to satisfy the requirement for a major in public speaking are referred to the *General Catalogue* of the Departments at Berkeley.

* Not to be given, 1940-41.

FOREIGN LANGUAGE GROUP

HENRY RAYMOND BRUSH, Ph.D., Professor of French (Chairman of the Group).

This group is composed of the departments of Classics, French, Germanic Languages, Italian, and Spanish, and has been organized for the purpose of unifying and coördinating the activities in these fields. Although no attempt is made to curtail the free development of each department, the special committee in charge of the Foreign Language Group endeavors to articulate, for their mutual benefit, the courses and research work of the five departments concerned.

The announcements of the departments comprising this group appear in their alphabetical order.

GENERAL PHILOLOGY AND LINGUISTICS**UPPER DIVISION COURSES**

150. Introduction to General Language. (1) I. Mrs. Woodworth
Prerequisite: two years of Latin, or two years each of two other foreign languages.

The interrelation of ancient and modern languages, especially those of common Indo-European origin.

170. Introduction to Linguistics. (3) II. Mr. Hoijer
Open to students with majors in English or the foreign languages.

An introduction to the fundamentals of general and historical linguistics, including phonetics; linguistic elements; grammatical categories; linguistic change; dialect geography; language, race, and culture.

ROMANCE LANGUAGES AND LITERATURES**GRADUATE COURSES**

203. Old Provençal: Reading of Texts. (2) I. Mr. Templin

***235. Romance Versification. (2) I.** Mr. Bailiff

252. Methodology of Romance Philology: Seminar. (2) II. Mr. Brush

* Not to be given, 1940-41.

FRENCH

FERNAND BALDENPERGER, Doctor ès Lettres, Visiting Professor of French.

HENRY RAYMOND BRUSH, Ph.D., Professor of French (Chairman of the Department).

PAUL PÉRIGORD, Ph.D., Professor of French Civilization.

FRANCIS J. CROWLEY, Ph.D., Associate Professor of French.

ALEXANDER GREEN FITE, Ph.D., Associate Professor of French.

MYRON IRVING BARKER, Ph.D., Assistant Professor of French.

MARIUS IGNACE BIENCOURT, Docteur de l'Université de Paris, Assistant Professor of French.

CLINTON C. HUMISTON, Ph.D., Assistant Professor of French.

L. GARDNER MILLER, Docteur de l'Université de Strasbourg, Instructor in French.

PAUL BONNET, Lic. ès Lettres, Associate in French.

HORACE S. CRAIG, M.A., Associate in French.

ALICE HUBARD, M.A., Associate in French.

MADELEINE LETESSIER, A.B., Associate in French.

Letters and Science List.—All undergraduate courses in French are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—French 1, 2, 3A, 3B, or their equivalents. Two years of high school Latin, or Latin A and B, or the equivalent, must be completed before the beginning of the senior year. History 4A-4B, Philosophy 3A-3B, and a modern language are strongly recommended.

The Major.—Required: twenty-four units of upper division French, including courses 101A-101B, 109A-109B, 112A-112B.

Any of the remaining upper division courses except 140A-140B and 109M-109N may be applied on the major. With the permission of the department four units of the twenty-four may be satisfied by appropriate upper division courses in English, German, Greek, Latin, Spanish, Italian, or philosophy.

Students with majors in French will also be required to take a comprehensive examination covering history, geography, and other general information concerning France. Two units credit toward the major will be given for satisfactory record in this examination which will be given on the second Friday in January and on the second Friday in May.

LOWER DIVISION COURSES

The ordinary prerequisites for each of the lower division courses are listed under the description of these courses. Students who have had special advantages in preparation may, upon examination, be permitted a more advanced program; or, such students may be transferred to a more advanced course by recommendation of the instructor.

1. Elementary French. (5) I, II.

Miss Letessier in charge

1A-1B. Elementary French. (3-3). Beginning each semester.

Miss Letessier in charge

This course covers in two semesters the same material as course 1. Students completing 1A-1B are eligible for entrance into course 2.

1G. Reading Course for Graduate Students. (No credit) I. Mr. Miller
Three hours a week.**2. Elementary French. (5) I, II.**

Miss Letessier in charge

Prerequisite: course A or two years of high school French.

3. Intermediate French. (5) I, II.

Mr. Humiston in charge

Prerequisite: course 2 or three years of high school French.

3A. Intermediate French. (3) I, II.

Mr. Humiston in charge

Prerequisite: course 2 or three years of high school French.

3B. Intermediate French. (3) I, II.

Mr. Humiston in charge

Prerequisite: course 3A or four years of high school French.

8A-8B. French Conversation. (4-4). Beginning each semester.

Miss Letessier in charge

The class meets two hours weekly. Open to students who have completed course 2 or its equivalent with grade of A or B.

25. Advanced French. (5) II.

Miss Letessier

Prerequisite: course 3B.

25A-25B. Advanced French. (3-3) Yr.

Mr. Miller, Mr. Craig

Prerequisite: course 3B.

UPPER DIVISION COURSES

The prerequisite to all upper division courses except 109M, 109N, and 140A-140B is sixteen units in the lower division, including course 3B with a grade of A or B, or 25A-25B (or 25).

Courses 101A-101B, 109A and 109B are ordinarily prerequisite to other upper division courses.

All upper division courses, with the exception of 109M, 109N, and 140A-140B, are conducted mainly in French.

101A-101B. Composition, Oral and Written. (3-3) Beginning each semester.

Mr. Barker, Mr. Biencourt, Mr. Miller, Mr. Crowley

109A. Survey of French Literature and Culture. (3) I.

Mr. Périgord

Limited to major students in French. Not open to students who have taken or are taking courses 109M, 109N.

The Middle Ages, the Renaissance, and the seventeenth century.

109B. Survey of French Literature and Culture. (3) II.

Mr. Périgord

Prerequisite: course 109A.

The eighteenth, nineteenth, and twentieth centuries.

109M. A Survey of French Literature and Culture. (3) I.

Mr. Humiston

Given in English; does not count on the major in French.

Not open to students who have taken or are taking courses 109A, 109B.

The Middle Ages, the Renaissance, and the seventeenth century.

- 109N. A Survey of French Literature and Culture. (3) II.** Mr. Humiston
Prerequisite: course 109M.
The eighteenth, nineteenth, and twentieth centuries.
- 112A. The Nineteenth Century. (2) I.** Mr. Brush
Prerequisite: courses 101A-101B, 109A, and 109B.
From 1789 to 1830.
- 112B. The Nineteenth Century. (2) II.** Mr. Brush
Prerequisite: course 112A.
From 1830 to 1885.
- *114A-114B. Contemporary French Literature from 1885 to the Present.**
(2-2) Yr. Mr. Fite
- *115A-115B. Modern French Drama. (2-2) Yr.** Mr. Fite
- 116. La Littérature entre les Deux Guerres. (2) I.** Mr. Baldensperger
- 118A-118B. The Sixteenth Century. (2-2) Yr.** Mr. Humiston
- 120A-120B. The Seventeenth Century. (2-2) Yr.** Mr. Baldensperger
- 121A-121B. The Eighteenth Century. (2-2) Yr.** Mr. Crowley
- 130A-130B. Grammar, Composition, and Style. (3-3) Yr.** Mr. Fite
Prerequisite: an average grade higher than C in French courses.
Practice in oral and written composition based on selected models. This course is required of all candidates for the certificate of completion of the teacher-training curriculum, or for the degree of Master of Arts.
- 140A-140B. French Civilization. (2-2) Yr.** Mr. Périgord
Presentation of the larger cultural elements in European history as caused, influenced, diffused, or interpreted by the French people.
Lectures in English, reading in French or English. Intended primarily for major students in English, history, economics, and political science.
- 199A-199B. Special Studies in French. (2-2) Yr.**
Mr. Périgord, Mr. Biencourt, Mr. Barker
Prerequisite: senior standing and at least twelve units of upper division French.

PROFESSIONAL COURSE IN METHOD

- 370. The Teaching of French. (3) I.** Mr. Brush
Prerequisite: courses 101A-101B and 109A-109B, the latter being permitted concurrently.

GRADUATE COURSES

- 201A-201B. Historical Grammar. (2-2) Yr.** Mr. Brush
History of French forms, sounds and syntax. An elementary knowledge of Latin is indispensable.
- 204A-204B. Voltaire and his Age. (2-2) Yr.** Mr. Crowley

* Not to be given, 1940-41.

- 206A-206B. Reading and Interpretation of Old French Texts. (2-2) Yr.
Mr. Brush
- 214A-214B. French Versification. (2-2) Yr. Mr. Biencourt
- 219A. The Origins of Romanticism; its Development to 1824. (2) I.
Mr. Barker
- 219B. Romantic Prose After 1824. (2) II.
Mr. Barker
- *219C. Romantic Poetry After 1824. (2) I. Mr. Barker
- *219D. Romantic Drama After 1824. (2) II. Mr. Barker
- 230A-230B. La Critique Littéraire en France au XIXe Siècle; les Points
de Vue et les Hommes. (2) II. Mr. Baldensperger
- 251A-251B. Seminar in Problems and Methods of Comparative Literature.
(2-2) Yr. Mr. Baldensperger
Given in English.
- 257A-257B. Seminar in the French Renaissance. (2-2) Yr. Mr. Humiston
- 298A-298B. Special Studies in Literary Criticism. (2-2) Yr. Mr. Fite

RELATED COURSES (See page 166)

- Romance Languages and Literatures 203. Old Provençal: Reading of
Texts. (2) I. Mr. Templin
- *Romance Languages and Literatures 235. Romance Versification. (2) I.
Mr. Bailiff
- Romance Languages and Literatures 252. Methodology of Romance Phil-
ology: Seminar. (2) II. Mr. Brush

* Not to be given, 1940-41.

GEOGRAPHY

GEORGE MCCUTCHEM MCBRIDE, Ph.D., Professor of Geography (Chairman of the Department).

BURTON M. VARNEY, Ph.D., Associate Professor of Geography.

CLIFFORD M. ZIERER, Ph.D., Associate Professor of Geography.

RUTH EMILY BAUGH, Ph.D., Assistant Professor of Geography.

ROBERT M. GLENDINNING, Ph.D., Assistant Professor of Geography.

MYRTA LISLE MCCLELLAN, B.S., Assistant Professor of Geography.

HALLOOK F. RAUP, Ph.D., Instructor in Geography.

Letters and Science List.—All undergraduate courses in geography are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Required: Geography 1A-1B, 3, and 5B, Geology 5. Recommended: Anthropology 1A-1B, Botany 1A, 36, Economics 1A-1B, Geology 3, one year of history, Physics 1A-1B, Political Science 3A-3B, and at least one modern foreign language.

The Major.—The minimum requirement for the major is eighteen or twenty-one units of upper division work in geography, including courses 101, 113, and 115, plus six or three units selected from courses in fields approved by the department; a list of such courses may be secured from the departmental adviser.

LOWER DIVISION COURSES

1A-1B. Elements of Geography. (3-3) Beginning each semester.

Mr. Glendinning Miss McClellan, Mr. Raup

Lectures, two hours; laboratory, two hours; field trips in 1B, for which an expenditure of \$2.25 may be necessary.

Not open for full credit to students who have credit for course 5A.

A study of the major geographic realms from the standpoint of their distribution and nature, including both physical and human elements.

3. Introduction to Weather and Climate. (3) II.

Mr. Varney

Lectures, two hours; laboratory, two hours.

Prerequisite: sophomore standing.

A study of the earth's atmosphere and the phenomena which produce weather and climate; recording of meteorological observations; work with meteorological instruments; study of weather maps.

5A. Economic Geography. (3) I, II. Mr. Glendinning, Mr. Zierer, ———

Limited to prospective majors in economics and business administration. Not open to students who have credit for course 1A-1B. Students who have credit for course 1A or 1B will receive only 1½ units of credit for course 5A.

A brief study of those elements of the natural environment essential to a geographic interpretation of economic activities.

5B. Economic Geography. (3) I, II. Mr. Glendinning, Mr. Zierer, ———

Prerequisite: course 5A or 1A-1B.

The principles of economic geography as developed from a study of representative areas, commodities, and industries.

UPPER DIVISION COURSES

Course 1A-1B (or, for majors in economics and business administration, 5A-5B) is prerequisite to all upper division courses except 181.

100. Principles of Geography. (3) I, II.

Miss McClellan

Prerequisite: senior standing, or candidacy for a teaching credential.

A brief survey of the fundamental factors of physical environment as they affect life on the earth and the activities of man.

101. Fundamentals of Geographic Field Work. (3) II.

Mr. Zierer

Saturdays.

To be taken by major students normally during the junior year.

Registration to be made only after consultation with the instructor.

Selected field studies in the Los Angeles area. The course affords training in field mapping of rural and urban types and in techniques of area analysis.

108. The Geographic Basis of Human Society. (3) I, II.

Miss Baugh

The geographic element in the evolution of primitive cultures and of advanced civilizations. A study of various types of physical habitat in relation to social organization and institutions, together with the corresponding human culture.

111. The Conservation of Natural Resources. (3) I.

Mr. Zierer

Discussion of current problems in the United States arising in connection with the utilization of lands for forestry, grazing, recreation, agriculture, mining, and other uses.

113. General Climatology. (3) I.

Mr. Varney

To be taken by major students normally in the first semester of the junior year.

Course 3 is especially desirable as a preparation for this course.

A study of the causes of climatic phenomena, of the larger features which characterize the climates of the earth, and of the influence of climatic conditions upon man.

***114. Regional Climatology: Western Hemisphere. (3) II.**

Mr. Varney

Prerequisite: course 113.

A study of the various types of climate, with reference to their underlying causes and to the effects of climate on man in the region.

115. Physical Bases of Geography. (3) I.

Mr. Glendinning

To be taken by major students normally in the junior year.

A study of the basic physical factors existing in each of the major landscape groups of the earth, with special emphasis on the interrelations of land forms, soils, drainage, and vegetation types. Several field trips required.

117. Geographical Aspects of Land Planning. (2) II.

Mr. Glendinning

Prerequisite: consent of the instructor.

A study of the rôle of the geographic discipline in land planning activities. Limited to ten students.

121. The Geography of Anglo-America. (3) I.

Mr. Zierer

Delimitation and analysis of the principal economic geographic divisions of the United States, Canada, and Alaska.

* Not to be given, 1940-41.

122A. The Geography of Latin America. (3) I. Mr. McBride
A study of the physical conditions characterizing the countries of South America, particularly in relation to the life of the inhabitants.

122B. The Geography of Latin America. (3) II. Mr. McBride
A study of the physical conditions characterizing Mexico, Central America, and the West Indies, particularly in relation to the life of the inhabitants.

123A. The Geography of Europe. (2) I. Miss Baugh
The effect of geographic conditions upon the economic status, political problems, and distribution of population in the Atlantic states of Europe.

123B. The Geography of Europe. (2) II. Miss Baugh
The effect of geographic conditions upon the economic status, political problems, and distribution of population in eastern and southern Europe.

***124. The Geography of Asia. (3) I, II.** Mr. Kawai
A study of the geographic factors which affect the social and economic conditions in the leading countries of Eastern Asia.

131. The Geography of California. (3) I, II. Miss Baugh
An analysis of geographic conditions in the seven major provinces of California. Utilization of resources, routes of communication, location of settlements and distribution of population in their geographical and historical aspects. A two-day field trip is taken for study of geographical conditions in several of these provinces.

155. Urban Geography. (3) II. Mr. Zierer
A study of cities from the viewpoint of location, form, and functional evolution. The physical and economic phases are emphasized.

171A. The Geographic Setting of American History. (3) I. Mr. McBride
Prerequisite: a university course in American history.

A study of the relation of the physical environment to the historical development of the peoples inhabiting Anglo-America.

171B. The Geographic Setting of American History. (3) II. Mr. McBride
Prerequisite: a university course in American history.

A study of the relation of the physical environment to the historical development of the peoples inhabiting Latin America.

173. The Historical Geography of the Mediterranean Region. (2) II. Miss Baugh

A study of the geographic factors operative in the Mediterranean lands, particularly their influence on ancient history and on modern political problems.

181. Current Problems in Political Geography. (3) I, II. Mr. McBride
Prerequisite: junior standing.

Consideration of the geographical basis of selected problems in domestic and international affairs, with stress upon the geographic principles involved.

199. Problems in Geography. (3) I, II. Mr. McBride and the Staff
Open only to seniors who have the necessary preparation for undertaking semi-independent study of a problem. Registration only after conference with the instructor in whose field the problem lies.

* Not to be given, 1940-41.

PROFESSIONAL COURSE IN METHOD

370. The Teaching of Geography. (3) II.

Miss McClellan

Limited to twenty students, registration to be made only after consultation with the instructor. This course may be counted on the unit requirement in education for the general secondary teaching credential.

The fundamental purposes of geography as an instrument of instruction; changing points of view; the basic principles; the various methods of presentation; the use of materials in the presentation of the subject.

GRADUATE COURSES†

250. The Growth of Geographic Thought: Seminar. (3) II.

Mr. Zierer

256. Seminar in Anglo-American Geography. (3) I.

Mr. Zierer

257. Seminar in Latin-American Geography. (3) II.

Mr. McBride

258. Seminar in California Geography. (3) I.

Miss Baugh

***261. Seminar in Climatology. (3) I.**

Mr. Varney

262. Seminar in Land Forms. (3) II.

Mr. Glendinning

275. Advanced Field Problems in Local Geography. (3) I, II.

Mr. Glendinning, Mr. Zierer

290. Research in Geography. (3 or 6) I, II.

Mr. Glendinning, Mr. McBride, Mr. Zierer

Investigation subsequent to, and growing out of, any of the above seminars.

† Requirements for the master's degree in geography may be met by either Plan I or Plan II.

Plan I, required of those preparing for advanced professional positions, must include three of the following seminars: 250, 256 or 257 or 258, 261 or 262, 275, and a thesis.

Plan II, required (unless the student elects Plan I) of those preparing for positions below the Junior College level, must include three of the following seminars: 250, 256 or 257 or 258, 261 or 262, 275, and a comprehensive examination.

* Not to be given, 1940-41.

GEOLOGY

JAMES GILLULY, Ph.D., Professor of Geology.

U. S. GRANT, Ph.D., Professor of Geology (Chairman of the Department).

WILLIAM JOHN MILLER, Ph.D., Sc.D., Professor of Geology.

M. N. BRAMLETTE, Ph.D., Associate Professor of Geology.

JOSEPH MURDOCH, Ph.D., Associate Professor of Geology.

EDGAR K. SOPER, Ph.D., Associate Professor of Geology.

ROBERT W. WEBB, Ph.D., Assistant Professor of Geology.

CORDELL DURRELL, Ph.D., Instructor in Geology.

WILLIAM C. PUTNAM, Ph.D., Instructor in Geology.

Preparation for the Major.—Geology 3, 5; Mineralogy 3A-3B; Chemistry 1A-1B; Physics 1A-1B; Mechanical Engineering D or equivalent; Mathematics 8, and C or 3A; Civil Engineering 11A-11B, 1FA-1FB (geology section). Recommended: English 1A-1B; a reading knowledge of German and French is essential for advanced work. Certain lower division requirements may be postponed to the upper division by permission of the department.

The Major.—A minimum of twenty-five units of upper division courses, including Geology 102A-102B, 103, 107, 116, and 199A-199B or 118; Paleontology 111A-111B. Mathematics 3A-3B is also required. The department will certify to the completion of a major program for graduation only on the basis of at least C grades in Geology 102B and 103.

Students whose major interests lie in the fields of mineralogy, petrology, petrography, economic geology, petroleum geology, stratigraphic geology, or geomorphology and who expect to continue work for the master's degree should complete also Mathematics 4A, Physics 1C, 1D, and Chemistry 6A-6B in their undergraduate program, since these are required for the higher degree. Mathematics 4B (or 109), 119, Physics 105, and Chemistry 109A-109B, 120 are also recommended for students in the fields named above.

Students whose major interests lie in the fields of paleontology or historical geology and who expect to continue work for the master's degree should complete Zoölogy 1A-1B, 112, and Oceanography 110 in their undergraduate program since these are required for the higher degree. Zoölogy 104 is also recommended for such students.

Oral and written proof of ability to use the English language adequately and correctly must be furnished to the department. Each program for a major is to be made out in accordance with some definite plan approved by the department.

Laboratory Fees.—Geology 118, \$35; Mineralogy 3A, 3B, \$2.

GEOLOGY

LOWER DIVISION COURSES

2. General Geology: Physiographic. (3) I, II.

Mr. Miller, Mr. Soper, Mr. Putnam, Mr. Webb

Half-day field trips are required.

Not open to students who have taken or are taking course 5.

An elementary course dealing with the earth's surface features and the geological laws governing their origin and development.

This course duplicates course 1C offered in previous years.

- 2L. General Geology: Laboratory.** (1) I, II. Mr. Webb
 Prerequisite: course 2 (may not be taken concurrently).
 Open only to students who have completed course 2 or 1A offered in previous years and who must have credit for course 5 or its equivalent.
 Laboratory practice in physical geology.
- 3. General Geology: Historical.** (3) I, II. Mr. Miller
 Prerequisite: course 2 or 5.
 A study of the geological history of the earth and its inhabitants, with special reference to North America.
 This course duplicates course 1B offered in previous years.
- 5. General Geology. Dynamical and Structural.** (4) I, II. Mr. Murdoch, Mr. Webb
 Lectures, three hours; laboratory, three hours. Field trips will be taken in laboratory time.
 Prerequisite: elementary chemistry.
 Not open to students who have taken or are taking course 2 or who have credit for course 1A.
 A study of the materials and structures of the earth and the processes and agencies by which the earth has been and is being changed.

UPPER DIVISION COURSES

- 102A. Field Geology.** (3) I. Saturdays. Mr. Bramlette, Mr. Putnam
 Prerequisite: courses 3, 103 (may be taken concurrently), Civil Engineering 1LA, 1FA, 1LB, 1FB (geology sections).
 Credit toward the major is given only to students who take both 102A and 102B.
 Introduction to field geology. Theory and practice of geologic mapping, and practice in the observation and interpretation of geologic phenomena, entailing weekly field trips into the nearby hills, and occasional longer excursions to points of special interest in a region remarkably rich in geologic features.
- 102B. Field Geology.** (3) II. Saturdays. Mr. Gilluly, Mr. Putnam
 Prerequisite: courses 102A, 102B (with a grade of C or higher).
 A continuation of course 102A.
- 103. Introduction to Petrology.** (4) I. Mr. Durrell
 Lectures, two hours; laboratory, six hours.
 Prerequisite: course 5, Mineralogy 3A-3B, and college chemistry.
 The general characteristics, origins, mode of occurrence and nomenclature of rocks, and description of the more common types, accompanied by determinative laboratory practice.
- 106. Economic Geology: Metalliferous Deposits.** (3) II. Mr. Soper
 Prerequisite: courses 3 and 103.
 A systematic study of ore occurrences, and of the genetic processes and structural factors involved; geographic distribution and economic aspects.
- 107. Physical Geology of North America.** (2) II. Mr. Miller
 Prerequisite: courses 2 or 5, and 3.
 A course in advanced general geology with special reference to a regional study of North America.

- 108. Economic Geology: Nonmetalliferous Deposits. (3) I.** Mr. Soper
Prerequisite: course 3.

Geologic occurrence and geographic distribution of the important non-metallic minerals, including coal, petroleum, building stones, clay, limes, gypsum, and fertilizers; special attention is given to strategic war minerals.

- 111. Petroleum Geology. (3) II.** Mr. Soper
Prerequisite: courses 102A, 116.

Geology applied to exploration for petroleum; the geology of the principal oil fields of the world with emphasis upon United States fields; and field methods in oil explorations. Lectures, map work, problems, and field trips to nearby oil fields.

- 116. Structural Geology. (3) I.** Mr. Gilluly
Lectures, two hours; laboratory, three hours.

Prerequisite: courses 102A (which may be taken concurrently), and 103. A working knowledge of descriptive geometry is desirable.

- 103. A working knowledge of descriptive geometry is desirable.**
The phenomena of fracture, folding, flow, and the graphic solution of problems with laboratory and field investigations.

- 117. Geomorphology. (3) II.** Mr. Putnam
Lectures, two hours; conference, one hour; one or two field trips may be required.

Prerequisite: courses 2 or 5, and 3.

The principles of geomorphology; application to the study of selected regions; map work, reports, and outside readings.

- 118. Summer Field Course. (4).** The Staff

Six weeks, beginning about June 10 of each year.

Fee, \$35; camp and commissary deposit, \$65.

Prerequisite: course 102B with a grade of at least C.

The chief aim of the course is to develop in the student (1) facility and accuracy in detailed geological mapping and cartography; (2) ability to observe independently and to interpret various types of rocks, structures, physiographic features, and other geological phenomena; and (3) the capacity to execute independently a general geologic survey of a region, determine its history, and prepare a suitable report concerning it. Satisfactory completion of this course satisfies the undergraduate thesis requirements for students whose major is geology.

With the approval of the instructor, this work may be taken for credit during two or more summers, under the designation Geology 118; however, not more than four units of credit so gained will be accepted as a part of the undergraduate major.

- *119. Geophysics. (2) I.**

Lecture, one hour; laboratory, three hours.

Prerequisite: courses 102A-102B, 116, and a year-course in college physics.

A study of geophysical principles and methods with special reference to the location of petroleum and ore deposits.

- 199A-199B. Problems in Geology. (2-2) Yr.**

Mr. Miller, Mr. Soper, Mr. Grant, Mr. Murdoch,
Mr. Webb, Mr. Durrell

Open only to seniors who are making geology their major study. Reports and discussions. Courses 199A and 199B should not be taken concurrently.

GRADUATE COURSES

- *214A-214B. Advanced Petrographic Laboratory.** (2-5; 2-5) Yr. Mr. Gilluly
Prerequisite: Mineralogy 109B.
Igneous rocks.
- 215A-215B. Advanced Petrographic Laboratory.** (2-5; 2-5) Yr. Mr. Gilluly
Prerequisite: Mineralogy 109B.
Metamorphic rocks.
- 236. Physical Geology of California.** (3) I. Mr. Miller
- 237. Paleontology and Stratigraphy of California.** (3) II. Mr. Grant
- 251. Seminar in Petrology.** (3) II. Mr. Miller
Advanced study of igneous and metamorphic rocks with emphasis on petrogenesis.
- 252. Seminar in Geomorphology.** (3) I. Mr. Putnam
Emphasis on general principles and regional studies.
- 258. Seminar in Stratigraphy.** (3) II. Mr. Bramlette
- 260A-260B. Seminar in Structural Geology.** (3-3) Yr. Mr. Gilluly
The second semester of this course may be taken without the first.
- 263. Seminar in Economic Geology of Non-metallic Deposits.** (3) I. Mr. Soper
- 264. Seminar in Economic Geology of Metallic Deposits.** (3) II. Mr. Soper
- 299A-299B. Research in Geology.** (1-6; 1-6) Yr. The Staff

MINERALOGY

LOWER DIVISION COURSE

- 3A-3B. Introduction to Mineralogy.** (3-3) Yr. Mr. Murdoch, Mr. Webb
Lecture, one hour; laboratory, six hours; discussion, one hour (3A only).
Fee, \$2 a semester.
Prerequisite: elementary chemistry and physics; Geology 5 (may be taken concurrently with 3A).
Lectures and laboratory practice in crystal morphology and projection, determination of minerals by their physical and chemical properties, and descriptive mineralogy.

UPPER DIVISION COURSES

- 101. Paragenesis of Minerals.** (2) II. Mr. Murdoch
Prerequisite: course 3A-3B, Chemistry 1A-1B.
- 109A. Optical Mineralogy and Petrography.** (2) I. Mr. Durrell
Laboratory, six hours.
Prerequisite: course 3B; Geology 103 (which may be taken concurrently.)

* Not to be given, 1940-41.

Study of the optical properties of minerals; mineral recognition under the microscope. The study and description of rocks, and their microscopic characters.

109B. Optical Mineralogy and Petrography. (4) II. Mr. Durrell

Lecture, one hour; laboratory, nine hours.

Prerequisite: course 109A.

A continuation of course 109A.

***110. Mineral Grain Analysis. (3) I.** Mr. Bramlette

Lecture, one hour; laboratory, six hours.

Prerequisite: course 109A-109B, and senior standing.

Methods in identification of minerals in grains; special emphasis on the clastic rocks, including mechanical analysis and immersion methods.

GRADUATE COURSES

281. Problems in Mineralography. (2 to 4) I. Mr. Murdoch

282. Problems in Goniometry. (2 to 4) II. Mr. Murdoch

PALEONTOLOGY

UPPER DIVISION COURSES †

111A-111B. Systematic Paleontology. (3-3) Yr. Mr. Grant

Lectures, two hours; laboratory, three hours.

Prerequisite: Geology 3 or Paleontology 1.

A general introduction to the study of invertebrate fossils.

114A. Micropaleontology. (3) I. Mr. Bramlette

Lecture, one hour; laboratory, six hours.

Prerequisite: Paleontology 111 and Geology 102A, 102B, 116.

A study of the microscopic fossils with special reference to age determination and correlation of strata in application to oil-field problems.

GRADUATE COURSE

215. Systematic Conchology and Echinology. (3) I. Mr. Grant

Lecture, one hour; laboratory, six hours.

Prerequisite: course 111, Geology 3.

An introduction to the classification and identification of the western American marine Cenozoic mollusca and echinoidea.

***266. Seminar in Micropaleontology. (3) II.** Mr. Bramlette

Prerequisite: course 114A.

RELATED COURSE IN ANOTHER DEPARTMENT

Oceanography 110. Introduction to Physical Oceanography. (2) II.

Mr. Revelle

* Not to be given, 1940-41.

† Courses in vertebrate paleontology may be found under the announcement of the Department of Zoölogy (p. 260).

GERMANIC LANGUAGES

GUSTAVE OTTO ABLT, Ph.D., Professor of German (Chairman of the Department).

ALFRED KARL DOLCH, Ph.D., Associate Professor of German.

FRANK HERMAN REINSCH, Ph.D., Associate Professor of German.

WILLIAM J. MULLOY, Ph.D., Assistant Professor of German.

GERALD M. SPRING, Ph.D., Assistant Professor of German.

WAYLAND D. HAND, Ph.D., Instructor in German.

VERN W. ROBINSON, Ph.D., Instructor in German.

ERIK WAHLGREN, Ph.D., Instructor in German and Scandinavian.

CARL W. HAGGE, M.A., Associate in German.

CHRISTEL B. SCHOMAKER, M.A., Associate in German.

BERT JOHN VOS, Ph.D., Research Associate in German.

Letters and Science List.—All undergraduate courses in German and Scandinavian Languages are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Required: courses 1, 2, 3A, 3B, and 6A-6B or their equivalents. Recommended: History 4A-4B, English 1A-1B, Philosophy 3A-3B.

The Major.—Twenty-four units in upper division courses, including courses 105, 106A-106B, 109B, 117, 118A-118B and at least four units made up from the senior courses 110, 111, 114, 119, and 145A. Students looking forward to the secondary credential should take also 106C-106D. Students desiring a purely literary or purely philological major, not looking toward secondary teaching, should consult the departmental adviser regarding permissible substitutions of courses.

Requirements for admission to Graduate Courses.

A candidate for admission to graduate courses in Germanic languages and literatures must meet, in addition to the general University requirements, the minimum requirements for an undergraduate major in this department. If the candidate is deficient in this prerequisite he must fulfill it by undergraduate work which is not counted toward his graduate residence.

Requirements for Advancement to Candidacy.

1. A reading knowledge of French.
2. A satisfactory reading and speaking knowledge of German.
3. An elementary comprehensive examination in German literature, language, and history.

Requirements for Master's Degree.

For the general requirements, see page 103. The Department of Germanic Languages favors the Comprehensive Examination Plan.

GERMAN

LOWER DIVISION COURSES

The ordinary prerequisites for each of the lower division courses are listed under the description of these courses. Students who have had special advantages in preparation may, upon examination, be permitted a more advanced program; or such students may be transferred to a more advanced course by recommendation of the instructor.

1. **Elementary German.** (5) I, II. Mr. Robinson in charge
This course corresponds to the first two years of high school German.
- 1A. **Elementary German.** (3) I, II. Mr. Robinson in charge
This course corresponds to the first year of high school German.
- 1B. **Elementary German.** (3) I, II. Mr. Robinson in charge
This course corresponds to the second year of high school German.
- 1G. **Elementary German for Graduate Students.** (No credit.) I. Mr. Spring
Three hours a week.
2. **Elementary German.** (5) I, II. Mr. Robinson in charge
Prerequisite: course 1, or courses 1A and 1B, or two years of high school German.
3. **Intermediate German.** (5) II. Mr. Mulloy in charge
Prerequisite: course 2 or three years of high school German.
- 3A. **Intermediate German.** (3) I, II. Mr. Mulloy in charge
Prerequisite: course 2 or three years of high school German.
- 3B. **Intermediate German.** (3) I, II. Mr. Mulloy in charge
Prerequisite: course 3A or four years of high school German.
- 6A-6B. **Review of Grammar, Composition, and Conversation.** (2-2) Yr.
Mr. Dolch in charge
Prerequisite: course 2 or three years of high school German.
- 25A-25B. **Advanced German.** (3-3) Yr. Mr. Schomaker
Prerequisite: course 3B or consent of the instructor.
- 25T. **Scientific German.** (3) I, II. Mr. Spring
Prerequisite: course 3B or consent of the instructor.
An introduction to science readings, covering all fields of science, but with special emphasis on the field of each individual student.

UPPER DIVISION COURSES

The prerequisite for all upper division courses except 140A-140B is course 3 (or 3B) or the equivalent. Major students are also required to take course 6A-6B.

- 104A-104B. **Introduction to Nineteenth Century German Literature.**
(3-3) Yr. Mr. Robinson
Selected readings from nineteenth century authors.
105. **The Dramas of Lessing.** (3) I. Mr. Reinsch
Lectures and reading of selected texts.

- 106A-106B. Grammar, Composition, and Conversation. (2-2) Yr. Mr. Schomaker
- 106C-106D. Grammar, Composition, and Conversation. (2-2) Yr. Mr. Schomaker
Prerequisite: course 106A-106B.
107. Phonetics of the German Language. (1) II. Mr. Dolch
108. Schiller's Life and Works. (3) II. Mr. Reinsch
Lectures and reading of selected texts.
- 109A. Introduction to Goethe. (3) I. Mr. Reinsch
Goethe's prose.
- 109B. Introduction to Goethe. (3) II. Mr. Reinsch
Goethe's *Faust*, Parts I and II.
110. The German Ballad and Lyric Poetry. (3) I. Mr. Mulloy
Prerequisite: six units of upper division German.
A survey from the Middle Ages to modern times.
111. The German Novelle. (3) II. Mr. Mulloy
Prerequisite: six units of upper division German.
114. German Literature from 1885 to the Present. (3) I. Mr. Spring
Prerequisite: six units of upper division German.
A survey of recent dramatic and narrative literature.
117. History of the German Language. (2) I. Mr. Dolch
Prerequisite: course 106A-106B, 107.
- 118A. History of German Literature. (3) I. Mr. Arlt
Prerequisite: six units of upper division German.
The Middle Ages.
- 118B. History of German Literature. (3) II. Mr. Arlt
Prerequisite: six units of upper division German.
From the Reformation to 1850.
119. Middle High German. (3) II. Mr. Dolch
Prerequisite: courses 117 and 118A.
Outline of grammar, selections from the Nibelungenlied, Kudrun, and the Court Epics.
- 140A-140B. German Civilization. (2-2) Yr. Mr. Arlt
Prerequisite: junior standing.
Lectures and reports. Conducted in English. May not be offered as part of the major or minor in German.
A general survey of the development of German civilization in its more important cultural manifestations.
- 145A-145B. Introduction to Folklore. (2-2) Yr. Mr. Hand
Prerequisite: six units of upper division work in English, French, German, Italian, or Spanish, and a reading knowledge of one foreign language.
Open to major students in English or in a modern foreign language.
The various fields of folklore, their literature, and problems.
- 199A-199B. Special Study for Advanced Undergraduates. (1 to 3) I, II. The Staff (Mr. Arlt in charge).
Topics selected with the approval of the department and studied under the direction of one of the staff.

PROFESSIONAL COURSE IN METHOD

370. The Teaching of German. (3) I.

Mr. Reinsch

Prerequisite: graduate standing in the Department of Germanic Languages.

Required of all candidates for the general secondary credential in German. To be taken concurrently with Education 370.

GRADUATE COURSES

201. Bibliography and Methods of Literary History. (2) I.

Mr. Arlt

An introduction to the means and methods of graduate study. Lectures and reports. Required of all candidates for the M.A. degree.

206. German Literature from Humanism to Gottsched. (2) I.

Mr. Hand

Lectures and reports.

222. Goethe's *Faust*. (2) II.

Mr. Reinsch

Critical and interpretative study of Goethe's *Faust*, Parts I and II.

*225. The Nineteenth Century Drama. (2) II.

Mr. Arlt

Critical and historical study of the German Drama from Romanticism to Naturalism.

231. Gothic. (2) I.

Mr. Dolch

An introduction to the study of Gothic grammar and texts. Graduate students in other language departments may be admitted with consent of the instructor.

232. Old High German. (2) II.

Mr. Dolch

An introduction to the study of Old High German grammar and texts.

251. The Young Goethe. (2) I.

Mr. Reinsch

Seminar on literary and cultural problems arising from the study of Goethe and his works prior to his journey to Italy in 1786.

257. Problems in Sixteenth and Seventeenth Century German Literature. (2) II.

Mr. Arlt

Conducted as a seminar.

SCANDINAVIAN LANGUAGES

UPPER DIVISION COURSES

101. Elementary Swedish. (3) I.

Mr. Wahlgren

Prerequisite: junior standing.

102. Intermediate Swedish. (3) II.

Mr. Wahlgren

Prerequisite: course 101 or the equivalent.

*103. Elementary Danish and Norwegian. (3) I.

Mr. Wahlgren

*104. Intermediate Danish and Norwegian. (3) II.

Mr. Wahlgren

GRADUATE COURSES

243. Old Icelandic. (2) I.

Mr. Wahlgren

244. Advanced Old Icelandic. (2) II.

Mr. Wahlgren

* Not to be given, 1940-41.

HISTORY

FRANK J. KLINGBERG, Ph.D., Professor of History.

JOSEPH B. LOCKEY, Ph.D., Professor of History.

WALDEMAR WESTERGAARD, Ph.D., Professor of History.

DAVID K. BJORK, Ph.D., Associate Professor of History (Chairman of the Department).

JOHN W. CAUGHEY, Ph.D., Associate Professor of History.

ROWLAND HILL HARVEY, Ph.D., Associate Professor of History.

ROLAND D. HUSSEY, Ph.D., Associate Professor of History.

LOUIS KNOTT KOONTZ, Ph.D., Associate Professor of History.

*ANDRÉ LOBANOV-ROSTOVSKY, Associate Professor of History.

BRAINERD DYER, Ph.D., Assistant Professor of History.

*LUCY M. GAINES, M.A., Assistant Professor of History.

CLINTON N. HOWARD, Ph.D., Assistant Professor of History.

¹JOHN W. OLMSTED, M.A., (OXON.), Assistant Professor of History.

W. TURRENTINE JACKSON, Ph.D., Instructor in History.

KAZUO KAWAI, Ph.D., Instructor in History.

CHARLES L. MOWAT, Ph.D., Instructor in History.

GODFREY DAVIES, M.A., (Oxon.), Lecturer in History.

*EDGAR J. GOODSPEED, Ph.D., Lecturer in the History of Religions.

Letters and Science List.—All undergraduate courses in history are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Required: (1) courses 4A-4B or 5A-5B, and (2) course 8A-8B, or equivalent preparation for students transferring from other departments or other institutions. Recommended: Political Science 3A-3B, Political Science 31, 32, Economics 1A-1B, Geography 1A-1B, and Philosophy 3A-3B. One of these recommended courses may be substituted for one of the required history courses, with approval of the department.

Recommended: French, German, Latin, Spanish, Italian, or a Scandinavian language. For upper division work in history, a reading knowledge of one of these is usually essential. For language requirements for graduate work, see ANNOUNCEMENT OF THE GRADUATE DIVISION, SOUTHERN SECTION.

The Major.—Twenty-four units of upper division work in history. In certain cases two to six upper division units in either political science or economics approved by the department may be counted on the major.

The major must include a year course in European history [one of the following: 111A-111B, 112A-112B, 121A-121B, 142A-B-C-D (any two consecutive semesters), 153A-153B] and a year course in American history [one of the following: 162A-162B, 171A-B-C (any two consecutive semesters)]. The major must also include History 199A-199B in a field for which preparation has been made in the junior year. This course may not be entered in February except with the special permission of the instructor.

¹In residence first semester only, 1940-41; ²in residence second semester only, 1940-41.

* Absent on leave, 1940-41.

Honors in History.—Students who pass with distinction a special honors examination for seniors given each May will be recommended to receive the bachelor's degree with honors or highest honors in history. Special work for students interested in honors is offered in the lower division in connection with courses 4A-4B, 5A-5B, and 8A-8B, and also in upper division year courses (3 units each semester). A special reading course for candidates for honors is given (see History 198). For information about honors work in connection with particular courses consult the instructors in charge. On general aspects of the honors program and examination consult either Mr. Mowat or Mr. Olmsted.

Graduate Work in History.—See the ANNOUNCEMENT OF THE GRADUATE DIVISION, SOUTHERN SECTION, and the ANNOUNCEMENT OF THE SCHOOL OF EDUCATION, LOS ANGELES.

LOWER DIVISION COURSES

4A-4B. History of Europe. (3-3) Beginning either semester.

Mr. Westergaard, Mr. Kawai

Lectures, two hours; quiz section, one hour.

The growth of European civilization from the decline of the Roman Empire to the present time.

5A-5B. History of England and Greater Britain. (3-3) Beginning either semester.

Mr. Howard, Mr. Mowat

Lectures, two hours; quiz section, one hour.

The political, economic, and cultural development of the British Isles from the earliest times to the present.

8A-8B. History of the Americas. (3-3) Beginning each semester.

Lectures, two hours; quiz section, one hour. Mr. Lockey, Mr. Jackson

A survey of the history of the Western hemisphere.

***9A. Great Personalities: United States. (2) I.**

Mr. Dyer

***9B. Great Personalities: Latin America. (2) II.**

Mr. Hussey

9C. Great Personalities: England. (2) II.

Mr. Harvey

9D. Great Personalities: Continental Europe. (2) I.

Mr. Olmsted

39. Pacific Coast History. (2) I, II.

Mr. Caughey

46. Economic History of the United States. (3) I, II.

Mr. Harvey, Mr. Jackson

Primarily for sophomores. Open to other students only with the written consent of the instructor.

UPPER DIVISION COURSES

The prerequisite for all upper division courses is History 4A-4B, or 5A-5B, or 8A-8B, or other preparation satisfactory to the instructor.

111A. Ancient History: Greece. (3) I.

Mr. Howard

Greek history to the Roman conquest.

* Not to be given, 1940-41.

- 111B. Ancient History: Rome. (3) II.** Mr. Howard
Roman history to the sixth century A.D.
- 112A. Economic History of the Western World. (3) I.** Mr. Harvey
Prerequisite: course 4A-4B or 5A-5B, and Economics 1A-1B.
From early times to 1750.
- 112B. Economic History of the Western World. (3) II.** Mr. Harvey
Prerequisite: course 4A-4B or 5A-5B, and Economics 1A-1B.
From 1750 to the present, including a brief survey of the contemporary economic society of the Orient.
- 114. History of the Founding of Christianity. (2) II.** Mr. Goodspeed
- 121A-121B. The Middle Ages. (3-3) Yr.** Mr. Bjork
A survey of the main currents of European history from the fall of the Roman Empire to about 1500 A.D.
- *131A. The Renaissance. (2) I.** Mr. Olmsted
The civilization of the Renaissance in Italy.
- *131B. The Renaissance. (2) II.** Mr. Olmsted
The civilization of the Renaissance in northern Europe.
- 142A. Continental Europe from 1648 to 1740. (3) I.** Mr. Olmsted
- 142B. Continental Europe from 1740 to 1815. (3) II.** Mr. Olmsted, Mr. Kawai
- 142C. Continental Europe from 1789 to 1870. (3) I.** Mr. Lobanov, Mr. Kawai
- 142D. Continental Europe since 1870. (3) II.** Mr. Lobanov
- *144A-144B. History of Northern and Eastern Europe. (2-2) Yr.** Mr. Westergaard
Prerequisite: senior standing; German or French or Latin or one of the Scandinavian languages, and History 4A-4B or 5A-5B, and one upper division course, preferably in Continental or English history.
Period covered, *circa* 1500 to 1740.
- *148A-148B. Diplomatic History of Europe in the Nineteenth Century. (3-3) Yr.** Mr. Lobanov
Open to graduates, and to seniors who have the consent of the instructor.
- 149A-†149B. History of Russia. (2-2) Yr.** Mr. Lobanov
Russia from its earliest days to the present.
- 152A-152B. Constitutional History of England. (2-2) Yr.** Mr. Howard
Prerequisite: course 5A-5B or 153A-153B or the consent of the instructor.
A study of the growth of the institutions of British government.
- 153A-153B. Social and Political History of Modern England: 1485 to the Present. (3-3) Yr.** Mr. Klingberg, Mr. Howard, Mr. Mowat
- *156A-156B. History of the British Empire. (2-2) Yr.** Mr. Klingberg
Prerequisite: senior standing and two years of college history, including course 4A-4B or 5A-5B or 8A-8B and one upper division course in history. Attention of students interested in the history of the British Empire is called to Political Science 153.

* Not to be given, 1940-41.

† To be given second semester only, 1940-41.

156. History of Canada. (3) I.

Mr. Mowat

A survey of the growth of Canada from its beginnings under the French and British colonial empires into a modern nation-state.

161. History of Spain and Portugal. (3) II.

Mr. Hussey

162A-162B. Hispanic America from 1808 to the Present. (3-3) Yr.

Mr. Caughey, Mr. Hussey

Prerequisite: course 8A-8B, or equivalent preparation approved by the instructor.

***164A-164B. History of Inter-American Diplomatic Relations. (2-2) Yr.**

Mr. Lockey

Prerequisite: senior standing and two years at college history, including course 8A-8B or 162A-162B.

171A. History of the United States. (3) I, II.

Mr. Koontz

The establishment and development of the Colonies to 1783.

171B. History of the United States. (3) I.

Mr. Dyer, Mr. Jackson

The formation and development of the Federal Union, 1783-1865.

171C. History of the United States. (3) I.

Mr. Dyer, Mr. Jackson

The United States since the Civil War.

***172A-172B. Constitutional History of the United States. (2-2) Yr.**

Mr. Dyer

Prerequisite: course 171B or the consent of the instructor.

173A-173B. The Civil War and Reconstruction. (2-2) Yr.

Mr. Dyer

Prerequisite: course 8A-8B, or 171A or 171B, or consent of the instructor.

Emphasis is placed on the political, economic, and social aspects of the period.

181. History of the Westward Movement. (3) I.

Mr. Caughey

The advance of the American frontier, with emphasis upon the trans-Mississippi West.

188. History of California. (3) II.

Mr. Caughey

Prerequisite: course 39 or 181.

191A-191B. History of the Far East. (3-3) Yr.

Mr. Kawai

A general survey of the history of the Far East from the earliest times to the present, with emphasis on recent international relations.

198. Conferences and Reading for Honors. (2) I, II.

Mr. Olmsted and Mr. Mowat in charge

Primarily for qualified history majors who intend to take the optional examination for honors in history given each May. Whenever possible students should enroll at the beginning of the junior year. May be taken four times for credit.

199A-199B. Special Studies in History. (2-2) Yr.

The Staff

This course may not be entered in February except with the special permission of the instructor. Students expecting to graduate in June should

* Not to be given, 1940-41.

begin the course in September of their senior year. Those graduating in mid-year should begin the course in the final semester of their junior year.

The fields in which work is normally offered are: Medieval Europe, Modern Europe, Great Britain and the Empire, United States, and Hispanic America.

PROFESSIONAL COURSE IN METHOD

***370. The Teaching of History and Social Studies. (3) I, II.**

This course may be counted in partial fulfillment of the 18-unit requirement in education for the General Secondary Credential. Recommended to be taken in the senior year.

GRADUATE COURSES

201. Historiography and Bibliography. (3) I. Mr. Hussey

254A-254B. Seminar in Medieval History. (3-3) Yr. Mr. Bjork

257A-257B. Seminar in European History. (3-3) Yr.
Mr. Westergaard, Mr. Lobanov
Studies in continental European history prior to 1914.

260A-260B. Seminar in English History. (3-3) Yr. Mr. Davies
Studies in the Stuart period.

261A-261B. Seminar in English History. (3-3) Mr. Klingberg
Studies of England in the 19th century.

262A-262B. Seminar in English History. (3-3) Yr. Mr. Harvey
Studies in the reform movements of the 19th century.

265A-265B. Seminar in Hispanic-American History. (3-3) Yr. Mr. Lockey
Studies in the colonial and early national periods.

269A-269B. Seminar in United States History. (3-3) Yr. Mr. Koontz
Studies in the colonial frontier.

270A-270B. Seminar in United States History. (3-3) Yr. Mr. Hussey
Studies in the Revolutionary era.

***271A-271B. Studies in United States History. (3-3) Yr.** _____
Studies in recent United States history.

272A-272B. Seminar in United States History. (3) Yr. Mr. Dyer
Studies in political and social problems of the middle 19th century.

274A-274B. Seminar in Pacific Coast History. (3-3) Yr. Mr. Caughey

290. Research in History. (1 to 6) I, II. The Staff

* Not to be given, 1940-41.

HOME ECONOMICS

HELEN B. THOMPSON, Ph.D., Professor of Home Economics.

GRETA GRAY, Ph.D., Associate Professor of Home Economics (Chairman of the Department).

VERZ R. GODDARD, Ph.D., Assistant Professor of Home Economics.

MARGUERITE G. MALLON, Ph.D., Assistant Professor of Home Economics.

MARTHA E. DAVIS, Ph.D., Instructor in Home Economics.

LEILA M. DOMAN, Ph.D., Instructor in Home Economics.

GLADYS TIMSON STEVENSON, Ph.D., Instructor in Home Economics.

FLORENCE A. WILSON, M.A., Associate in Home Economics.

The College of Applied Arts

The Department of Home Economics offers three curricula leading to the major:

A. Curriculum for nonprofessional students.

Preparation for the Major.—Courses 1B, 11B, 32; Art 2A, 21; Biology 1, Physiology 1, or Biology 12.

The Major.—Courses 102A–102B, 143, 162A–162B, 168, and twenty-two units of advanced home economics and other courses approved by the department. Courses in art, English, music, physical education, psychology, and sociology are recommended for homemakers; courses in economics, philosophy, and sociology for students preparing for social work; courses in business administration, the natural sciences, and psychology for those preparing for commercial positions.

B. Curriculum for prospective teachers.

Preparation for the Major.—Courses 1A–1B, 11A–11B; Art 2A, 21; Chemistry 2A–2B, 10; Physiology 1; a year-course in economics, psychology, or sociology.

The Major.—Courses 108, 118, 120, 143, 162A–162B, 164A–164B, 168; ten units of advanced home economics and six units of other courses approved by the department.

C. Curriculum for students preparing for professional work in nutrition and dietetics.

Preparation for the Major.—Course 11A–11B; Business Administration 1A; Chemistry 1A–1B, 8; Economics 1A–1B; Physiology 1.

The Major.—Courses 118, 120, 125, 136A–136B, 162A–162B; Business Administration 153, 180; Twelve units to be selected from Home Economics 110, 159, Chemistry 107A–107B, or other courses approved by the department.

Vocational Home Economics.—Students who have had experience in the administration of a home and who have credit in Home Economics 143 may qualify for teaching vocational courses by completing either the requirements for the special secondary teaching credential in homemaking or the general secondary teaching credential with home economics as a major.

The College of Letters and Science

Letters and Science List.—All undergraduate courses except 32, 102A-102B, 108, and 175 are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Laboratory Fees.—Courses 1A, 11B, 175, \$1.50; 108, 136A, 136B, 199A, 199B, \$2; 102A, 102B, 110, 120, 125, 159, \$3; 11A, \$4.

LOWER DIVISION COURSES

1A-1B. Clothing. (3-3) Beginning each semester.

Fee for 1A, \$1.50.

Miss Wilson, Mrs. Stevenson

Prerequisite: matriculation credit in "clothing" or Art 2A.

The study of kinds and qualities of materials for different uses; construction of typical forms of clothing; artistic qualities of dress design, pattern, color and weave of fabrics; individual and social standards in the selection of clothing.

11A. Elementary Food. (3) I, II.

Miss Thompson, Miss Davis

Prerequisite: high school chemistry or Chemistry 2A. Fee, \$4.

The classification, occurrence, and general properties of foodstuffs; the principles involved in food preparation and preservation; compilation of recipes; practice in judging food preparations and in meal service.

11B. Food Economics. (3) I, II.

Mrs. Stevenson

Prerequisite: course 11A. Fee, \$1.50.

The production, transportation, and marketing of food materials; the legal and sanitary aspects of food products handled in commerce; prices in relation to grades and standards.

32. Elements of Nutrition. (2) I, II.

Miss Thompson, Miss Goddard

Prerequisite: six units of natural science.

The principles of nutrition and their application in normal and sub-normal conditions of growth and physical development, and as a factor in the health of adults. Family food budgets in relation to nutritive requirements; dietary habits of the foreign born.

UPPER DIVISION COURSES

102A-102B. Food and Dietetics. (3-3) Yr.

Miss Thompson

Prerequisite: Chemistry 1A-1B or high school chemistry and Physiology 1. Fee, \$3 a semester.

A brief study of the nutritive values of the food materials; individual food needs in normal and pathological conditions both in adult life and in childhood; planning of dietaries; calculation and preparation of diets with special reference to cost of materials in relation to nutritive standards.

108. Textiles. (2) I, II.

Miss Wilson

Prerequisite: Art 2A, Economics 1A or Home Economics 1B. Fee, \$2.

Study of weaves, patterns, color, texture, shrinkage, and durability of fabrics; chemical, physical, and microscopic examination of fibers and yarns; evaluation of labels, bulletins, advertisements, and other available consumer aids in buying textile materials.

110. Food Composition. (3) I, II.

Miss Goddard

Prerequisite: Chemistry 8 or 10. Fee, \$3.

Detailed study of the proximate principles, the inorganic constituents, and the vitamins with reference to their occurrence in the different food materials, their chemical properties, and their nutritive values as affected by heat or the admixture of other food substances.

118. Nutrition. (3) I, II.

Miss Mallon

Prerequisite: Chemistry 8 or 10, Physiology 1.

Discussions of the chemical and biological factors in metabolism, energy transformation, the quantitative relations of the ash constituents, nitrogen and mineral balances in both normal and pathological conditions. Attention is given to recent literature bearing upon growth and upon normal and sub-normal nutrition in infancy and childhood.

120. Dietetics. (3) I, II.

Miss Mallon

Prerequisite: Chemistry 8 or 10, Home Economics 110 or 118A. Fee, \$3.

Daily food requirements as indicated by the experimental studies that have established the quantitative basis in dietetics; calculations of standard portions and combinations of foods; computations and scoring of dietaries with special reference to food requirements in childhood and adolescence and in varying physiologic conditions at all periods of life.

125. Experimental Cookery. (2) I.

Miss Davis

Prerequisite: course 110 or Chemistry 10. Fee, \$3.

Quantitative methods in food preparation under controlled conditions.

136A-136B. Institution Economics. (3-3) Yr.

Miss Davis

Prerequisite: course 11B and Economics 1A-1B. Fee, \$2 a semester.

The economic principles and problems involved in the organization and administration of institution households such as residence halls, hotels, hospitals, and school lunchrooms.

143. Child Care. (2) I, II.

Mrs. Stevenson

Physical development of children from prenatal through adolescent life. Discussion of problems concerned with the care of children in the home with emphasis upon the factors in their social development.

159. Metabolism Methods. (3) II.

Miss Goddard

Prerequisite: Chemistry 8 or 10; Home Economics 118A or equivalent preparation. Fee, \$3.

Observations of the influence of special diets upon various phases of metabolism; practice in the methods of determining blood constituents, basal metabolic rate and nitrogen and mineral excretions.

162A-162B. Economics of the Household. (2-2) Beginning each semester.

Miss Gray

Prerequisite: Economics 1A-1B, or six or more units in home economics.

Standards of living; size, composition, income, and expenditures of American households; study of the factors which have developed the modern household and which influence its activities and its selection and utilization of goods and services. Management of financial resources to meet the present and future needs of the family.

164A-164B. Housing and Household Sanitation. (2-2) Yr.

Miss Gray

Housing and its relations to the activities and the economic problems of the household. Measures for improving health conditions.

168. Family Relationships. (2) II.

Miss Doman

Discussions of the contributions of the family to personal and group well-being, of problems of the modern family, and of bases for satisfying family relationships and successful family life.

175. Advanced Study of Costume. (3) II.

Miss Wilson

Prerequisite: Art 2A, 21, Home Economics 1A-1B. Fee, \$1.50.

Practice in the development of designs for individuals and of the adaptation of materials and methods of construction to the various problems of modern costume.

199A-199B. Problems in Home Economics. (2-4; 2-4) Yr.

Miss Thompson, Miss Gray, Miss Goddard

Prerequisite: senior standing with such special preparation as the problem may demand. Sections 1 and 2, field investigations and statistical studies; the expense of the problem to be met by the student. Sections 3 and 4, laboratory; fee, \$2 a semester.

Assigned problems for individual investigation, the work of each student to be directed by the instructor in whose division of the field the problem lies.

PROFESSIONAL COURSE IN METHOD**370. Principles of Home Economics Teaching (3) I.**

Miss Doman

Prerequisite: Psychology 1A-1B, six or more units in home economics.

The development of home economics as an educational movement; home-making courses and their presentation in high schools; homemaking activities in the elementary school; critical review of texts and references in relation to curriculum requirements in different types of schools.

GRADUATE COURSES**251. Seminar in Nutrition. (2) I.**

Miss Mallon

Recent advances in the science of nutrition developed by feeding and metabolism experiments and in the dietetic treatment of disease.

***261. Social Problems of Families. Seminar. (2) II.**

Mrs. Stevenson

A study of the social development of the home and its contribution to culture at different stages of civilization; parental and community standards and controls for the care and nurture of children.

262. Personal and Family Economics. Seminar. (2) II.

Miss Gray

Critical comparison of surveys, budget studies, financing customs and business planning of families and individuals of varying levels of income.

282A-282B. Selected Problems. (2-4; 2-4) Yr.

Miss Thompson, Miss Gray, Miss Goddard, Miss Mallon

Laboratory or field investigation in nutrition, food economics, or household administration.

* Not to be given, 1940-41.

ITALIAN*

HENRY RAYMOND BRUSH, Ph.D., Professor of French (Chairman of the Department of Italian).

CHARLES SPERONI, Ph.D., Instructor in Italian.

PERINA PIZIALI, M.A., Associate in Italian and Associate in Clinical Psychology.

FRANCO BRUNO AVERARDI, J.D., Ph.D., Lecturer in Italian.

Letters and Science List.—All undergraduate courses in Italian are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

LOWER DIVISION COURSES

1. **Elementary Italian.** (5) I, II. Mr. Speroni, Miss Piziali
Essentials of grammar; reading of easy texts.
- 1A-1B. **Elementary Italian.** (3-3) Yr. Mr. Averardi
This course covers in two semesters the work of course 1.
2. **Elementary Italian.** (5) I, II. Mr. Speroni
Prerequisite: course 1, or one year of high school Italian.
- 3A. **Intermediate Italian.** (3) I, II. Mr. Averardi
Prerequisite: course 2, or two years of high school Italian.
- 3B. **Intermediate Italian.** (3) I, II. Mr. Averardi
Prerequisite: course 3A, or three years of high school Italian.

UPPER DIVISION COURSES

Sixteen units of lower division courses in Italian are required for admission to any upper division course, except 140A-140B. All upper division courses, with the exception of 140A-140B, are conducted mainly in Italian.

- 101A-101B. **Composition, Oral and Written.** (3-3) Yr. Mr. Speroni
- 103A-103B. **Survey of Italian Literature.** (3-3) Yr. Mr. Averardi
- 109A-109B. **Dante's Divina Commedia.** (3-3) Yr. Mr. Averardi
Prerequisite: six units of upper division Italian, or the equivalent.
- 140A-140B. **Survey of Italian Literature and Culture.** (2-2) Yr. Mr. Averardi

Given in English; not open to students who have taken or are taking course 103A-103B.

* The University of California at Los Angeles does not offer a major in Italian. Students wishing to satisfy the requirement for a major in Italian are referred to the *General Catalogue* of the Departments at Berkeley.

LIFE SCIENCES GROUP

LOYE HOLMES MILLER, Ph.D., Professor of Biology (Chairman of the Group).

This group is composed of the departments of Bacteriology, Botany, and Zoölogy, and has been organized for the purpose of unifying and coördinating the activities in these fields. Although no attempt is made to curtail the free development of each department, the special committee in charge of the Life Sciences Group endeavors to articulate, for their mutual benefit, the courses and research work of the three departments concerned.

The announcements of the departments comprising this group appear in their alphabetical order.

MATHEMATICS

EARLE R. HEDRICK, Ph.D., Sc.D., LL.D., Professor of Mathematics.

GEORGE E. F. SHERWOOD, Ph.D., Professor of Mathematics.

TRACY Y. THOMAS, Ph.D., Professor of Mathematics.

WILLIAM M. WHYBURN, Ph.D., Professor of Mathematics (Chairman of the Department).

CLIFFORD BELL, Ph.D., Associate Professor of Mathematics.

PAUL H. DAUS, Ph.D., Associate Professor of Mathematics.

*GLENN JAMES, Ph.D., Associate Professor of Mathematics.

WENDELL E. MASON, M.S.E., M.E., Associate Professor of Applied Mathematics.

MAX ZORN, Ph.D., Associate Professor of Mathematics.

GUY H. HUNT, C.E., Assistant Professor of Applied Mathematics.

ANGUS E. TAYLOR, Ph.D., Assistant Professor of Mathematics.

EUPHEMIA R. WORTHINGTON, Ph.D., Assistant Professor of Mathematics.

HARRIET E. GLAZIER, M.A., Assistant Professor of Mathematics, Emeritus.

RALPH E. BYRNE, JR., Ph.D., Instructor in Mathematics.

PAUL G. HOEL, Ph.D., Instructor in Mathematics.

WILLIAM T. PUCKETT, JR., Ph.D., Instructor in Mathematics.

FREDERICK A. VALENTINE, Ph.D., Instructor in Mathematics.

ELIZABETH B. KING, M.A., Lecturer in Mathematics.

HARRY M. SHOWMAN, E.M., M.A., Lecturer in Mathematics.

Letters and Science List.—All undergraduate courses in mathematics are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Required: courses C (or the equivalent), 8, 6, 3A, 3B, 4A, with an average grade of C or higher, except that students who have completed two years of high school algebra and also trigonometry may be excused, upon examination, from course 8. Recommended: physics, astronomy, and a reading knowledge of French and German.

The Major.—Courses 109 (or 4B), 111, 112A–112B, and 119, together with fourteen additional upper division units, must be included in every mathematics major. The student must maintain an average grade of at least C in upper division courses in mathematics.

Students who are preparing to teach mathematics in high school are advised to elect courses 101, 102, 104, 370.

Business Administration.—Freshmen in this college are required to take courses 8 and 2, except that students who have completed two years of high school algebra and also trigonometry may be excused, upon examination, from course 8.

Pre-Engineering and Pre-Mining.—The University of California offers at Los Angeles the first two years of the curricula of the Colleges of Engineering and Mining which are in Berkeley. Students intending to pursue their studies

* In residence second semester only, 1940–41.

in these colleges should consult the departmental pre-engineering adviser before making out their programs.

The minimum requirements for admission to the courses 3A-3B, 4A-4B are high school algebra, plane geometry, plane trigonometry, and course 8 unless excused as noted above. Prospective engineering students are urged, however, to add, in their high school course, another half-year of algebra and solid geometry to this minimum preparation.

Fees.—Civil Engineering 1FA, 1FB, \$5; Civil Engineering 3, \$25.

LOWER DIVISION COURSES

- C. Trigonometry.** (2) I, II. Mr. Puckett
 Prerequisite: high school geometry and course 8. By permission of the department the prerequisite of course 8 may be varied in special cases.
 Not open to students who have had trigonometry in high school.
- F. Spherical Trigonometry.** (1) II. Miss Worthington
 Prerequisite: plane trigonometry.
- 2. Mathematics of Finance.** (3) I, II. Mr. Daus
 Prerequisite: course 8.
- 3A. Plane Analytic Geometry.** (3) I, II. Mr. Bell, Mr. Mason
 Prerequisite: courses C and 8, or the equivalent.
- 3AB. Analytic Geometry and First Course in Calculus.** (6) II. Mr. Daus
 Prerequisite: courses C and 8, or the equivalent.
 This course is equivalent to Mathematics 3A and 3B.
- 3B. First Course in Calculus.** (3) I, II. Mr. Hunt
 Prerequisite: course 3A.
- 4A. Second Course in Calculus.** (3) I, II. Mr. Taylor
 Prerequisite: course 3B.
- 4B. Third Course in Calculus.** (3) I, II. Mr. James
 Prerequisite: course 4A.
 Course 4B may be substituted for Mathematics 109 with the approval of the department.
- 4A-4B. Second and Third Courses in Calculus.** (6) I. Mr. Sherwood
 Prerequisite: course 3B.
- 6. Solid Analytic Geometry and Determinants.** (2) I, II. Mr. James
 Prerequisite: course 3A.
- 7. Mathematics for Social and Life Sciences.** (3) II. Mr. Hoel
 Prerequisite: course 8 or the equivalent.
 This course gives in brief form an introduction to analytic geometry and the calculus, and other mathematical material particularly designed for students of the social and life sciences.
- 8. College Algebra.** (3) I, II. Mr. Sherwood, Mr. Hunt, and the Staff
 Prerequisite: at least one year of high school algebra.
 Students who need extra drill in this subject will be required to enroll in sections which meet five days a week.

- 10A. Vectors and Allied Topics. (2) I.** Mr. Bell
Prerequisite or concurrent: course 4A.
Prescribed for pre-engineering students in the mechanical and electrical engineering curricula.
- 10B. Elementary Differential Equations and Applications. (2) I, II.** Mr. Bell
Prerequisite or concurrent: course 4B.
Prescribed for pre-engineering students in the mechanical and electrical engineering curricula.
Not open for full credit to students who have credit for course 119.
- 18. Fundamentals of Arithmetic. (2) I, II.** Mrs. King, Mr. Bell
Prerequisite: sophomore standing.
- 21. Elementary Statistics. (3) I.** Mr. Hoel
Emphasis is placed on the understanding of statistical methods. Topics covered are frequency distributions, measures of central tendency, measures of variation, moments, theoretical frequency distributions, sampling, standard errors, linear regression, and linear correlation.

UPPER DIVISION COURSES

Students may not elect upper division courses unless they have taken or are taking Mathematics 3B and 4A or their equivalent.

- 101. Elementary Geometry for Advanced Students. (3) I.** Mr. Daus
Prerequisite: course 3A.
Selected topics in elementary geometry, with particular emphasis on recent developments.
- 102. Introduction to Higher Algebra. (3) II.** Miss Worthington
Prerequisite: courses 8, 3B, 4A.
Selected topics in algebra, with particular reference to modern points of view.
- *104. History of Mathematics. (3) I.** _____
A nontechnical course open to students who have some knowledge of the fundamental ideas of analytic geometry and calculus.
- 109. Third Course in Calculus. (3) I, II.** Mr. Sherwood
Prerequisite: courses 3B and 4A.
Course 4B may be substituted for Mathematics 109 with the approval of the department.
- 111. Theory of Algebraic Equations. (3) I, II.** Mr. James, Mr. Zorn
Prerequisite: courses 8, 3B, and 4A.
- 112A-112B. Introduction to Higher Geometry. (2-2) Yr.** Mr. Daus, Mr. Sherwood
Prerequisite: courses 6, 3B, and 4A.
- *113. Synthetic Projective Geometry. (3) II.** Mr. Daus
Prerequisite: course 112A-112B, or consent of the instructor.
- 114. Modern Geometry. (3) II.** Mr. Sherwood
Prerequisite: courses 6, 112A-112B.
- 115. Theory of Numbers. (3) II.** Mr. Daus

* Not to be given, 1940-41.

119. **Differential Equations.** (3) I, II. Mr. Bell
Prerequisite: course 109 or its equivalent.
Not open for full credit to students who have had course 10B.
- 122A-122B. **Advanced Calculus.** (3-3) Yr. Mr. Whyburn
Prerequisite: course 109.
124. **Vector Analysis.** (3) I. Mr. Whyburn, Mr. Zorn
Prerequisite: course 109 and one year of college physics.
125. **Analytic Mechanics.** (3) II. Mr. Valentine
Prerequisite: course 109 or its equivalent, and Physics 105.
- 131A-131B. **Statistics.** (3-3) Yr. Mr. Hoel
Not open for full credit to students who have taken course 21.
199. **Special Problems in Mathematics.** (3) I, II. Mr. Whyburn and the Staff
Prerequisite: consent of the department.

PROFESSIONAL COURSE IN METHOD

370. **The Teaching of Mathematics.** (3) II. Mrs. King
Prerequisite: courses 3B and 4A.
A critical inquiry into present-day tendencies in the teaching of mathematics.

GRADUATE COURSES

- *211. **Higher Plane Curves.** (3) I. Mr. Daus
215. **Non-Euclidean Geometry.** (3) I. Mr. Daus*
- *216A. **Foundations of Differential Geometry.** (3) I. Mr. Thomas
A discussion of geometry and group theory, allowable coordinates and tangent spaces. Axioms for differential geometry. Existence theorems.
- *216B. **Differential Invariants.** (3) II. Mr. Thomas
A study of the foundations of invariant theories of generalized spaces. Among the topics treated are normal coordinates, the general theory of extension, spatial identities, differential invariants and parameters, the equivalence problem, and reducibility of spaces.
- 221A-221B. **Higher Algebra.** (3-3) Yr. Mr. Sherwood
- 224A-224B. **Functions of a Complex Variable.** (3-3) Yr. Mr. Taylor
227. **The Theory of Summability.** (3) II. Mr. James
A study of convergent, nonconvergent, and asymptotic series, with applications to infinite integrals and Fourier series.
243. **Real Variables—Differential Equations.** (3) I. Mr. Whyburn
244. **Real Variables—Integration.** (3) II. Mr. Whyburn
- *245. **Integral Equations.** (3) I. Mr. Whyburn
Prerequisite: course 243.

* Not to be given, 1940-41.

***246. Partial Differential Equations. (3) II.**

Mr. Whyburn

Prerequisite: course 243.

247A. Selected Topics in Absolute Differential Calculus. (3) I. Mr. Thomas

Prerequisite: course 216B or the consent of the instructor.

A course of lectures on pure and applied mathematics based on the absolute differential calculus, with special attention to recent developments.

247B. Selected Topics in Absolute Differential Calculus. (3) II.

Prerequisite: course 216B or 247A.

Mr. Thomas

A continuation of course 247A, but an attempt will be made to arrange the subject matter so that the course can be taken by those who have not had course 247A.

260. Seminars. (3-3) I, II.

Topics in analysis, geometry, and algebra, and in their applications, by means of lectures and informal conferences with members of the staff.

290. Research in Mathematics. (1 to 6) I, II.

The Staff

CIVIL ENGINEERING†

11A-11B. Plane Surveying Lectures. (2-2) 11A, I, II; 11B, II only.

Mr. Hunt, Mr. Mason

Prerequisite: trigonometry and geometric drawing.

1FA-1FB. Plane Surveying Field Practice. (1-1) 1FA, I, II; 1FB, II only.

Mr. Hunt, Mr. Mason

Prerequisite or concurrent: course 11A-11B. Fee, \$5 a semester.

3. Summer Class in Plane Surveying. (3)

Mr. Mason

Prerequisite: course 1FA-1FB. Fee, \$25.

Four weeks of field work after the close of the college year.

8. Materials of Engineering Construction. (2) I, II.

Mr. Mason

Prerequisite: sophomore standing.

* Not to be given, 1940-41.

† First two years only.

MECHANIC ARTS

HAROLD W. MANSFIELD, Assistant Professor of Mechanic Arts (Chairman of the Department).

FOSS R. BROCKWAY, Ed.B., Associate in Mechanic Arts.

ADRIAN D. KELLER, M.A., Associate in Mechanic Arts.

CHARLES H. PAXTON, A.B., Associate in Mechanic Arts.

THOMAS A. WATSON, Associate in Mechanic Arts.

———, Associate in Mechanic Arts.

WENDELL E. MASON, M.S.E., M.E., Associate Professor of Applied Mathematics.

The College of Applied Arts

Preparation for the Major.—Mechanical Engineering D; Mechanic Arts 11, 12, 14, 15, 16, 17.

The Major.—Thirty-six units of coördinated upper division courses approved by the department.

The Minor.—Twenty units of coördinated courses, not less than six of which shall be in the upper division.

Special Secondary Teaching Credential in Industrial Arts Education.—For the requirements see THE ANNOUNCEMENT OF THE SCHOOL OF EDUCATION, LOS ANGELES.

Laboratory Fees.—Mechanic Arts 11, 12, 14, 17, 21, 24, 29, 101, 102, 104, 105, 107A, 107B, 111, 112, 114, 115, 121, 125, \$3; Mechanical Engineering 10B, \$5.

MECHANICAL ENGINEERING*

D. Engineering Drawing. (2) I, II.

Mr. Mansfield

Lettering, orthographic projection, pictorial representation, developed surfaces and intersections, dimensioning, fastenings for machinery, working drawings, topographical drawing.

1. Elements of Heat Power Engineering. (3) I, II.

Mr. Paxton

Heat engines, steam power plants, boiler room equipment, steam engines, turbines; Diesel and other internal combustion engines; fuels.

2. Descriptive Geometry. (3) I, II.

Mr. Paxton

Lecture, one hour; laboratory, six hours.

6. Machine Drawing. (3) I, II.

Mr. Paxton

Lecture, one hour; laboratory, six hours.

Design and delineation of simple machine parts in the drafting room, with special emphasis upon the production of drawings which conform to standard practice.

10B. Treatment of Engineering Materials. (2) I, II.

Mr. Mason, Mr. Watson, Mr. Keller, ———

Prerequisite: Civil Engineering 8. Fee, \$5.

* The University of California offers at Los Angeles the first two years in preparation for admission to the junior year of the College of Engineering at Berkeley. Students intending to pursue their studies in this college should present their programs for approval to the pre-engineering adviser.

**MECHANIC ARTS
LOWER DIVISION COURSES**

11. **Bench and Machine Work in Wood. (3) I.** Mr. Keller
Fee, \$3.
Fundamental hand tool and joinery operations; the layout and development of joints essential in wood construction. Maintenance and operation of stationary and portable woodworking machinery.
12. **General Metal Work. (3) I, II.** Mr. Brockway
Fee, \$3.
A survey of the fundamental elements of metal work; metals and metal working processes; construction of articles with applications involving industrial design; metalcraft and hobbies.
14. **Elements of Practical Electricity. (3) I.** ———
Fee, \$3.
A general course in electricity dealing with the theory of direct current and magnetic circuits, stressing the practical application and operation of D. C. circuits, electrical measuring instruments and equipment.
15. **Automobile Problems for the Purchaser and User. (3) I, II.**
Lectures and demonstrations. Mr. Watson
The operation of the modern automobile; unit study. Fuel; lubrication; tires, accessories, and supplies. Analysis of repairs; operation for safety and economy. Financing; insurance; depreciation. Future developments in motor cars.
16. **Architectural Drawing. (2) I.** Mr. Mansfield
An introduction to architectural drawing; the house, plans, elevations, sections, working drawings; architectural symbols and details; perspective drawing; lettering; reproduction by the blue print and other printing processes.
17. **Machine Shop. (3) I, II.** Mr. Watson
Fee, \$3 a semester.
Elementary machine shop practice; fundamental operations and tool processes; operations of standard power tools. Layout and bench work. Distinguishing various metals; working from blue prints and sketches; tool sharpening.
21. **General Woodwork. (2) I.** Mr. Keller
Fee, \$3.
Fundamentals of construction as applied to recreational activities; skis, paddle boards and small boats.
24. **Elementary Electronics and Radio Circuits. (3) I, II.** ———
Fee, \$3.
A concise course covering the theory of thermionic vacuum tubes with their practical application and operation in high frequency circuits, particularly in the field of radio; short wave radio, set construction and repair.
29. **Applied Photography. (2) I, II.** Mr. Keller
Fee, \$3.
Fundamentals of photography; exposure, developers and their characteristics, films, filters, and development of negatives and prints.

UPPER DIVISION COURSES

- 101. Cabinet Making. (3) I.** Mr. Keller
 Fee, \$3.
 Case and furniture making with emphasis on variety of typical elements. Preparation and application of paints, stains, varnishes and lacquers.
- 102. General Shop. (3) I.** Mr. Brockway
 Fee, \$3.
 Analysis and construction of projects involving combined use of various tools, materials, and processes.
- 104. Alternating Currents. (3) II.** _____
 Fee, \$3.
 A general course in electricity dealing with the theory and practice of alternating current circuits and equipment, principles and use of electrical measuring instruments, switchboard work, circuit testing, and commercial distribution.
- 105. Automotive Laboratory. (3) I.** Mr. Brockway
 Fee, \$3.
 Principles of design and adjustment of the automobile. The taking down, assembly and operation of automotive units. Diagnostic tests and measurements for mechanical condition. Study of tolerances and clearances of various parts. Survey of fuels, lubricants and problems of automotive lubrication.
- 106A-106B. Industrial Arts Drawing. (2-2) Yr.** Mr. Mansfield
 Technical sketching, lettering, assembly and detail drawings, design, tracing and reproduction.
- 107A-107B. Machine Shop. (3-3) Yr.** Mr. Watson
 Prerequisite: course 17A-17B. No prerequisite for graduate students on consent of instructor. Fee, \$3 a semester.
 Advanced machine shop practice; machine construction and repair; tool-making; use of precision instruments; development work on research apparatus; model making and how to apply and prepare for patents.
- 111. Wood Pattern Making. (2) II.** Mr. Keller
 Fee, \$3.
 Pattern making and foundry practice.
- 112. General Metal Work. (3) II.** Mr. Brockway
 Fee, \$3.
 A study of metals and metal fabrication with applications as found in industry. Ferrous and nonferrous metals and some of their alloys.
 Heat treatments; oxy-acetylene welding; electric arc welding; forging and ornamental iron work.
- 114. Industrial Arts Electricity. (3) I.** _____
 Fee, \$3.
 Design, drawing, and fabrication of electrical and radio projects suitable for teaching purposes in secondary schools.

115. Automobile Reconstruction. (3) II.**Mr. Brockway**

Fee, \$3.

Principles of automobile maintenance. Engines and engine reconstruction; trouble location, "tune up" methods. Automotive electrics, storage batteries and circuits. Body and fender maintenance methods.

121. Industrial Arts Woodwork. (2) II.**Mr. Keller**

Fee, \$3.

Design and development of projects in wood suitable for classes in secondary schools.

125. Tractors. (3) II.**Mr. Brockway**

Fee, \$3.

Diesel and gasoline tractors; principles of operation in laboratory and field; fuels and lubricants; drives and controls. Practice in taking down, assembling, and adjusting. Survey of Diesel fuel systems and their operation. Approved methods of maintenance. Field trips to industrial plants.

199A-199B. Special Problems in Technical Related Subjects. (2-2) Yr.

Prerequisite: junior standing.

Mr. Mansfield and the Staff

Tools, materials, processes of industry, and special studies in the field of mechanic arts.

PROFESSIONAL COURSE IN METHOD**370. Industrial Arts Education. (2) II.****Mr. Mansfield**

A study of the objectives, content, organization, methods, and techniques of teaching the industrial arts in the secondary schools.

MILITARY SCIENCE AND TACTICS

CHARLES E. SEVERSON, Colonel, U. S. Army, Professor of Military Science and Tactics (Chairman of the Department).

JOHN A. ANDREWS, Major, U. S. Army, Associate Professor of Military Science and Tactics.

GUSTAV J. BRAUN, Major, U. S. Army, Associate Professor of Military Science and Tactics.

D'ALARY FROHET, Major, U. S. Army, Retired, Associate Professor of Military Science and Tactics.

DON B. NORRIS, Major, U. S. Army, Associate Professor of Military Science and Tactics.

RALPH E. POWELL, Major, U. S. Army, Associate Professor of Military Science and Tactics.

JAMES H. SMITH, Major, U. S. Army, Retired, Associate Professor of Military Science and Tactics.

WILLIAM F. BARNES, Second Lieutenant, U. S. Army, Instructor in Military Science and Tactics.

ROBERT W. FROBACH, Second Lieutenant, U. S. Army, Instructor in Military Science and Tactics.

HORACE G. FERRIS, Band Leader.

Letters and Science List.—All undergraduate courses in this department are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

The University of California at Los Angeles does not offer a major in military science and tactics in the College of Letters and Science. At Berkeley, a combination major of military science and either (a) history and political science or (b) jurisprudence may be taken. Students wishing to satisfy the requirements for such a combination major are referred to the GENERAL CATALOGUE, Departments at Berkeley.

The courses in military training are those prescribed by the War Department for infantry and coast artillery units of the senior division of the Reserve Officers' Training Corps. The United States furnishes arms, equipment, uniforms, and some textbooks for the use of the students belonging to such units. An amount necessary to replace articles not returned by the students will be collected by the Comptroller.

The student who is found by the Medical Examiner to be ineligible for enrollment in military science and tactics may be assigned by the Examiner to the individual gymnastics section of Physical Education 3.

The primary object of establishing units of the Reserve Officers' Training Corps is to qualify students for appointment in the Officers' Reserve Corps of the United States Army. Students who complete the advanced course and who participate in such summer camps as the Secretary of War may prescribe are eligible upon graduation for appointment and commission by the President of the United States in the Officers' Reserve Corps, which is intended to furnish a great part of the commissioned personnel for the temporary forces which this nation will require in time of emergency.

The courses are divided into two groups, namely, the basic course and the advanced course, with distinctive missions as indicated below.

BASIC COURSE

The purpose of this course is to produce better citizenship through sound character development, under the guidance of the Constitution of the United States.

The basic course is prescribed for all first-year and second-year undergraduate male students who are citizens of the United States, able-bodied and under twenty-four years of age at the time of admission to the University. A first-year or second-year student claiming exemption because of non-citizenship, physical disability, or age will present a petition on the prescribed form for such exemption. Pending action on his petition the student will enroll in and enter the course prescribed for his year.

Students who have received training in a junior R. O. T. C. unit may be given advanced standing on the basis of two years junior R. O. T. C. for one year senior R. O. T. C. However, advanced standing will not excuse a student from the two years basic training required by the University unless he elects to take the advanced course, in which event junior R. O. T. C. credit to the extent of 1½ years senior R. O. T. C. credit may be given. Application for advanced standing must be made when registering and must be accompanied by a recommendation from the professor of military science and tactics at the school which the student attended.

1A-1B. Basic Military Training. (1½-1½) Yr.

Mr. Severson, Mr. Norris, Mr. Braun, Mr. Andrews,
Mr. Fechet, Mr. Smith

Two hours of field instruction and one hour of class instruction each week.

Instruction in National Defense Act. Obligations of citizenship, military history and policy, current international situation, military courtesy, military hygiene and first aid, map reading, military organization, rifle marksmanship, primary instruction in coast artillery ammunition, weapons and material, and leadership to include the duties of a private.

2A-2B. Basic Military Training. (1½-1½) Yr.

Mr. Severson, Mr. Norris, Mr. Braun, Mr. Andrews,
Mr. Fechet, Mr. Smith

Two hours of field instruction and one hour of class instruction each week.

Instruction in characteristics of infantry weapons, automatic rifle, musketry, scouting and patrolling, combat principles of the squad; primary Coast Artillery instruction in position finding for sea coast and antiaircraft artillery; leadership to include the duties of a corporal.

MILITARY BAND AND DRUM AND BUGLE CORPS

Students who play musical instruments suitable for use in the Military Band or in the Drum and Bugle Corps may take such work under the appropriate sections of courses 1A-1B, 2A-2B.

ADVANCED COURSE

The purpose of this course is to select and appoint qualified graduates in the Officers' Reserve Corps of the United States Army.

The advanced course is prescribed for such third-year and fourth-year students as have completed the basic course and elect to continue their military training.

Any member of the senior division of the Reserve Officers' Training Corps who has completed two academic years of service in that division, who has been selected for further military training by the Vice-President and Provost of the University and the professor of military science and tactics, and who

executes the following written agreement, will be entitled, while not subsisted in kind, to a commutation of subsistence fixed by the Secretary of War in accordance with law (about \$72 a year).

194.

In consideration of commutation of subsistence to be furnished in accordance with law, I hereby agree to complete the advanced course Infantry (Coast Artillery) R. O. T. C. in this or any other institution where such course is given, to devote five hours per week during such period to military training prescribed and to pursue the courses of camp training during such period as prescribed by the Secretary of War.

(Signature)

The course of camp training is for six weeks during the summer vacation normally following the student's completion of the first year of the advanced course. The United States furnishes uniform, transportation and subsistence and pays students at the rate prescribed for the seventh enlisted grade of the regular army. Students who attend receive one-half unit of credit for each week of the duration of the camp.

Cadet officers and, so far as practicable, sergeants of the unit, will be appointed from members of the senior and junior classes, respectively.

103A. Advanced Infantry Training. (3) I, II.

Mr. Norris, Mr. Braun, Mr. Andrews

†Instruction and practice in the duties of officers in connection with the basic course; instruction in pistol and rifle marksmanship, machine gun and howitzer company weapons, aerial photographs, map reading, motors, company administration, and leadership to include duties of the platoon sergeant.

103B. Advanced Infantry Training. (3) I, II.

Mr. Andrews

†Instruction and practice in the duties of officers in connection with the basic course; combat principles of howitzer company squads, combat principles of machine gun and rifle platoon; field fortification, defense against chemical warfare, and leadership to include duties of the company officer.

104A. Advanced Infantry Training. (3) I, II.

Mr. Braun

†Instruction and practice in the duties of officers in connection with the basic course; instruction in military history and military law, tanks, mechanization, anti-tank weapons, property procurement, and combat leadership to include duties of company officers and battalion staff.

104B. Advanced Infantry Training. (3) I, II.

Mr. ———

†Instruction and practice in the duties of officers in connection with the basic course, instruction in combat principles to include rifle and machine gun company and howitzer platoon, tanks and mechanization, infantry field signal communications, infantry antiaircraft tactics, and leadership to include duties of company officers and battalion staff.

143A. Advanced Coast Artillery Training. (3) I.

Mr. Norris, Mr. Smith

†Instruction and practice in the duties of an officer in connection with the basic course; instruction in basic gunnery and position finding for sea coast artillery, map reading, aerial photographs, and leadership to include duties of platoon sergeant.

† Each student must enroll for two hours of field instruction and three hours of class instruction each week.

143B. Advanced Coast Artillery Training. (3) II.**Mr. Smith**

†Instruction and practice in the duties of an officer in connection with the basic course; instruction in basic gunnery and position finding for antiaircraft artillery, orientation, signal communication, C. A., and leadership to include duties of the battery officer.

144A. Advanced Coast Artillery Training. (3) I.**Mr. Norris**

†Instruction and practice in the duties of an officer in connection with the basic course; instruction in military history, military law, battery administration and supply, artillery material, and leadership to include duties of battery officers and battalion staff.

144B. Advanced Coast Artillery Training. (3) II.**Mr. Norris**

†Instruction and practice in the duties of an officer in connection with the basic course; instruction in motor transportation, Coast Artillery tactics and combat orders; field engineering, defense against chemical warfare, and leadership to include duties of battery officers and battalion staff.

SUMMER CAMPS

Students who satisfactorily complete a course in a Reserve Officers' Training Corps or a military training summer camp conducted by the United States Government may receive credit toward graduation at the rate of one-half unit a week for each course completed. But is provided (a) that no credit thus earned in or after 1925 shall excuse a student from the courses in military science and tactics required of all male undergraduates during their freshman and sophomore years, and (b) that the total credit thus earned by any student shall not exceed six units.

† Each student must enroll for two hours of field instruction and three hours of class instruction each week.

MUSIC

GEORGE STEWART MCMANUS, Mus.Doe., Professor of Music and University Organist.

ARNOLD SCHOENBERG, Professor of Music.

LEROY W. ALLEN, M.A., Associate Professor of Music (Chairman of the Department).

FRANCES WRIGHT, Associate Professor of Music.

ROBERT U. NELSON, M.A., Assistant Professor of Music.

WALTER H. RUBSAMEN, Ph.D., Instructor in Music.

RAYMOND MOREMEN, M.S.M., Lecturer in Music.

HELEN CHUTE DILL, M.A., Supervisor of Training, Music.

LAVERNA L. LOSSING, M.A., Supervisor of Training, Music.

The student may select a major in music in either the College of Letters and Science or in the College of Applied Arts; these majors lead to the degree of Bachelor of Arts in both instances. For information concerning teaching credentials consult the ANNOUNCEMENT OF THE SCHOOL OF EDUCATION, LOS ANGELES.

The College of Letters and Science

Letters and Science List.—All undergraduate courses except 7A-7B, 46A-46B-46C-46D, 108A-108B, and 115A-115B are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Courses 1A-1B, 2A-2B, 14A-14B, 35A-35B. Recommended: a reading knowledge of French, German, or Italian, Physics 1A, 1D, and some ability in piano playing.

The Major.—Twenty-four units of upper division courses, including (a) course 104A-104B; (b) six units chosen from courses 111A-111B, 124, 125, 126, 127, 128, 129, 130, 199; and (c) fourteen units chosen from courses 105A-105B, 106A-106B, 109A-109B, 114A-114B, 122A-122B, and courses under (b) not duplicated.

The College of Applied Arts

Two curricula are available:

A. For the bachelor's degree alone.

Preparation for the Major.—Courses 1A-1B, 2A-2B, 14A-14B, 35A-35B. Recommended: a reading knowledge of French, German, or Italian, Physics 1A, 1D, and some ability in piano playing.

The Major.—Thirty-six units of upper division courses, including (a) course 104A-104B; (b) six units chosen from courses 111A-111B, 124, 125, 126, 127, 128, 129, 130, 199; and (c) twenty-six units chosen from upper division courses in music, with the exception of courses 108A-108B and 115A-115B. Six or eight units of upper division courses in related fields will be accepted upon departmental approval.

B. For the bachelor's degree and the special secondary teaching credential.

Preparation for the Major.—Courses 1A-1B, 2A-2B, 7A-7B, 14A-14B, 35A-35B. Recommended: a reading knowledge of French, German, or Italian, Physics 1A, 1D, and some ability in piano playing.

The Major.—Courses 104A-104B, 105A-105B, 108A-108B, 109A-109B, 115A-115B; six units chosen from courses 111A-111B, 124, 125, 126, 127, 128, 129, 130, 199; together with twelve additional units in upper division courses in music. Six or eight units in related fields will be accepted upon departmental approval.

The Minor in Music.—Twenty units of coördinated courses, six of which must be in the upper division.

A. Requirements for the General Secondary Credential.—Consult the ANNOUNCEMENT OF THE SCHOOL OF EDUCATION, LOS ANGELES.

B. Requirements for Admission to Graduate Courses.—

1. *As a candidate for the general secondary credential:* Ordinarily the undergraduate major in music, or its equivalent, including courses 104A-104B, 105A-105B, 108A-108B, 109A-109B, 115A-115B, and six upper division units chosen from courses 111A-111B, 124, 125, 126, 127, 128, 129, 130, 199. It is recommended that course 370B be taken in the senior year, as it is prerequisite to Education G377.

2. *As a candidate for the Master's Degree:* Ordinarily the undergraduate major of twenty-four upper division units of music, with the exception of courses 108A-108B and 115A-115B.

C. Requirements for the Master's Degree.—For the general requirements, see page 103. The Department of Music favors the Thesis Plan.

LOWER DIVISION COURSES

1A-1B. Solfeggio. (3-3) Beginning either semester. Miss Wright
Elementary theory, dictation, and music reading. Basic course for the major in music.

2A-2B. The History and Appreciation of Music. (2-2) Yr. Mr. McManus
The consideration of music from formal, aesthetic, and historical standpoints.

7A-7B. Elementary Voice. (2-2) Yr. Mr. Moremen
Restricted to music majors in teacher-training curricula.

9A-B-C-D. Chorus and Glee Club. (1 unit each semester.) Mr. Moremen

10A-B-C-D. University Symphony Orchestra. (2 units each semester.)
Prerequisite: the consent of the instructor. Mr. Allen
The study and performance of standard symphonic literature.

11A-B-C-D. A Cappella Choir. (2 units each semester.) Mr. Moremen
Prerequisite: the consent of the instructor.
The study and performance of standard choral works for unaccompanied voices.

- 14A-14B.* Counterpoint.** (2-2) Yr. Mr. Nelson
Prerequisite: course 35A-35B.
- *15A-15B. Strings, Elementary.** (2-2) Yr. Mr. Allen
- *16A-16B. Brass, Elementary.** (2-2) Yr. Mr. Allen
- *17A-17B. Woodwind, Elementary.** (2-2) Yr. Mr. Allen
- 35A-35B. Harmony.** (3-3) Yr. Mr. Nelson, Mr. Rubsamen
Prerequisite: course 1A-1B or its equivalent; may be taken concurrently with 1A-1B with the consent of the instructors.
- 37A-37B. Piano, Intermediate.** (2-2) Yr. Mr. McManus
- 46A-B-C-D. University Band.** (1 unit each semester.) Mr. Allen
Prerequisite: the consent of the instructor.

UPPER DIVISION COURSES

The piano requirement, prerequisite to junior standing in the Department of Music, is the ability to play such music as the accompaniments in the Teacher's Manuals of the Music Hour Series and the Progressive Series, four-part hymns and folk songs, and contrapuntal compositions equivalent to First Lessons in Bach, edited by Walter Carroll. In special cases this requirement may be reduced for students with corresponding proficiency on other approved instruments.

- 104A-104B. Form and Analysis.** (2-2) Yr. Mr. Nelson
Prerequisite: course 35A-35B.
Analysis of homophonic and contrapuntal music.
- 105A-105B. Composition.** (2-2) Yr. Mr. Schoenberg, Mr. Nelson
Prerequisite: courses 14A-14B, 35A-35B, 104A-104B, and the consent of the instructor; 104A-104B may be taken concurrently. Recommended: course 106A-106B.
- Vocal and instrumental compositions in the smaller forms.
- 106A-106B. Structural Functions of Harmony.** (2-2) Yr. Mr. Schoenberg
Prerequisite: courses 35A-35B, 104A-104B (may be taken concurrently).
The application of harmonic progressions to form and composition.
- 108A-108B. Advanced Voice.** (2-2) Yr. Mr. Moremen
Prerequisite: course 7A-7B.
Restricted to music majors in teacher training curricula.
- 109A-109B. Conducting.** (1-1) Yr. Mr. Allen
Prerequisite: courses 1A-1B, 35A-35B.
The theory and practice of conducting choral and instrumental organizations.
- †110A-110B. String Ensemble.** (1-1) Yr. Mr. Rubsamen
Prerequisite: the consent of the instructor.

* Not to be given, 1940-41.

† Not to be given first semester, 1940-41.

111A-111B. History of Music in Western Civilization. (3-8) Yr.

Mr. Rubsamen

Prerequisite: courses 2A-2B, 35A-35B, or their equivalent, and junior standing.

The stylistic development of music with a background of its relationship to other arts and to culture in general.

114A-114B. Instrumentation. (2-2) Yr.

Mr. Allen

Prerequisite: course 35A-35B, and junior standing.

The theory and practice of writing for instrumental ensembles. The study of orchestral scores and an introduction to symphonic orchestration.

115A-115B. Instrumental Technique and Repertoire. (2-2) Yr.

Prerequisite: course 35A-35B, and junior standing.

Mr. Allen

Restricted to music majors in teacher-training curricula.

A theoretical and practical study of the instruments of the orchestra and band, including the principles of arranging music for representative combinations. Appropriate literature for instrumental ensembles.

116A-116B. Piano, Advanced. (2-2) Yr.

Mr. McManus

Prerequisite: the consent of the instructor.

†119A-119B. Wind Instrument Ensemble. (2-2) Yr.

Prerequisite: the consent of the instructor. Mr. Allen, Mr. Rubsamen

122A-122B. Double Counterpoint, Canon, and Fugue. (2-2) Yr.

Mr. Schoenberg

Prerequisite: course 14A-14B, and the consent of the instructor.

124. Bach. (2) I.

Mr. Rubsamen

Prerequisite: courses 2A-2B, 35A-35B.

***125. Beethoven. (2) II.**

Mr. Rubsamen

Prerequisite: courses 2A-2B, 35A-35B.

***126. The History of the Sonata. (2) I.**

Mr. Nelson

Prerequisite: courses 2A-2B, 35A-35B.

The development of the sonata from its beginnings to the close of the romantic period.

127. The History of the Opera. (2) II.

Mr. Rubsamen

Prerequisite: courses 2A-2B, 35A-35B.

A survey of operatic music from its inception to the present day.

128. Modern Tendencies in Music. (2) I.

Mr. Nelson

Prerequisite: courses 14A-14B, 35A-35B.

A study of form, style, and idiom in contemporary music.

129. The Romantic Symphony. (2) I.

Mr. Rubsamen

Prerequisite: courses 2A-2B, 35A-35B.

A study of symphonic works of the romantic period.

† Not to be given first semester, 1940-41.

* Not to be given, 1940-41.

- 130. History and Literature of Church Music.** (2) I. Mr. Moremen
 Prerequisite: courses 2A-2B, 35A-35B.
 A study of the history and development of church music, including worship forms and liturgies.
- 199. Special Studies in Music.** (2) I, II. Mr. Schoenberg, Mr. Rubsamen
 Prerequisite: the consent of the instructor.

PROFESSIONAL COURSES IN METHOD

- 330. Elementary Music Education.** (3) I, II. Mrs. Dill, Miss Lossing
 Prerequisite: sophomore standing and course 1A or its equivalent.
 A course in music education for the general elementary teacher. A professionalized subject-matter course to equip the student to teach in the modern school. Required of candidates for the general elementary credential.
- 370A-370B. Music Education.** (3-3) Yr. Miss Wright
 Prerequisite: junior standing.
 Organization and administration of music in secondary schools.
 This course is required of candidates for the general secondary credential.

GRADUATE COURSES

- 201A-201B. Advanced Composition.** (3-3) Yr. Mr. Schoenberg
- 205. History of Pianoforte Style.** (2) I. Mr. McManus
- 253A-253B. Seminar in Musicology.** (3-3) Yr. Mr. Rubsamen
 Prerequisite: course 111A-111B or the equivalent.
- 261. Special Studies for Composers. Seminar.** (2) II. Mr. Schoenberg

NAVAL SCIENCE AND TACTICS

CHARLTON E. BATTLE, JR., Captain, U. S. Navy; Graduate U. S. Naval Academy; Graduate U. S. Naval War College; Professor of Naval Science and Tactics (Chairman of the Department).

HARRY W. NEED, Commander, U. S. Navy; Graduate U. S. Naval Academy; Graduate U. S. Naval War College; Graduate U. S. Naval Academy Postgraduate Course; Associate Professor of Naval Science and Tactics.

PHILIP W. WARREN, Lieutenant-Commander, U. S. Navy, Retired, Graduate U. S. Naval Academy; Associate Professor of Naval Science and Tactics.

ROBERTSON J. WEEKS, Lieutenant-Commander, U. S. Navy, Retired, Graduate U. S. Naval Academy; Associate Professor of Naval Science and Tactics.

MYRON W. GRAYBILL, Lieutenant, U. S. Navy; Graduate U. S. Naval Academy; Graduate U. S. Naval Academy Postgraduate Course; Assistant Professor of Naval Science and Tactics.

RICHARD B. LEVIN, Lieutenant, U. S. Navy; Graduate U. S. Naval Academy; Graduate U. S. Naval Academy Postgraduate Course; Assistant Professor of Naval Science and Tactics.

LOUIS O. KIMBRELL, Assistant in Naval Science and Tactics.

GLENN E. PRALL, Assistant in Naval Science and Tactics.

PETER W. MATTHEWS, Assistant in Naval Science and Tactics.

WINFIELD S. WARTENBURG, Assistant in Naval Science and Tactics.

Letters and Science List.—All undergraduate courses in this department are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

NAVAL RESERVE OFFICERS' TRAINING CORPS

By action of the Secretary of the Navy and of the Regents of the University in June, 1938, provision was made for the establishment of a unit of the Naval Reserve Officers' Training Corps on the Los Angeles campus of the University.

The primary object of the Naval Reserve Officers' Training Corps is to provide systematic instruction and training at civil institutions which will qualify selected students of such institutions for appointment as officers in the Naval Reserve. The Naval Reserve Officers' Training Corps is expected to train Junior Officers for the Naval Reserve and thus assist in meeting a demand for increased commissioned personnel in time of war or national emergency.

Courses in Naval Science are given for those who intend to complete the four years of training for a commission in the Naval Reserve. While only students signifying such a purpose will be admitted, students who for sufficient reasons are forced to discontinue their training before their commission is granted, will be permitted, at the end of two years, to count such training in lieu of the military training prescribed by the University. All courses in naval science described hereinafter include infantry drill for one hour weekly for all Naval R. O. T. C. students.

Enrollment is restricted to able-bodied male students who are citizens of the United States and are between the ages of fourteen and twenty-four years. Students must pass the same physical examination as is required of all candidates for admission to the Naval Academy.

The courses in navigation, seamanship, communications, naval history, ordnance and gunnery, naval aviation, military law, naval administration, and mechanical and electrical engineering are those prescribed by the Navy Department for the Naval Reserve Officers' Training Corps. The United States furnishes arms, equipment, uniforms, and textbooks for the use of these students. At the end of each academic year the Department of Naval Science and Tactics will set a date for the return of equipment. The names of students who fail to return equipment issued to them will be reported to the Comptroller in order that appropriate action may be taken by the University authorities. Upon satisfactory completion of the course the uniform becomes the property of the student.

The basic course (lower division) consists of the first two years in the Department of Naval Science and Tactics and is open only to freshmen and sophomores of the University.

The advanced course (upper division) consists of the final two years in Naval Science and Tactics or of such shorter periods of time as may, in exceptional cases, outlined in the regulations, be prescribed by the Secretary of the Navy. The advanced course is open only to students who have successfully completed the basic course, and who have been selected by the Professor of Naval Science and Tactics for upper division work.

A member of the Naval Reserve Officers' Training Corps who is enrolled in the advanced course is entitled to commutation of subsistence from the first day during an academic term that the student starts the advanced course in training until he completes the course at the institution or his connection with the Naval Reserve Officers' Training Corps is severed in accordance with the regulations prescribed, except that subsistence in kind will be furnished in lieu of commutation of subsistence for any periods devoted to cruises. The amount allowed for subsistence, which will be fixed from time to time by the Secretary of the Navy, will not exceed the value prescribed by law for a commuted ration in the Navy.

Naval Reserve Officers' Training Corps practice cruises will be held annually as prescribed by the Navy Department. Attendance at one advanced cruise is required by all students enrolled in the advanced course. Advanced course students receive the pay of enlisted men of the seventh pay grade of the Navy during their attendance on cruises.

Basic course students may be authorized to attend cruises but while so doing will not receive pay. All Naval Reserve students attending cruises are furnished transportation and subsistence by the United States.

Credit may be allowed for courses completed in summer practice cruises at the rate of one-half unit per week for each course so completed; the maximum credit obtainable is six units.

LOWER DIVISION COURSES

1A-1B. Naval Science (first year). (1½-1½) Yr. Mr. Battle and the Staff

Two hours of classroom work and one hour of drill or practical exercise per week.

- (a) Naval history.
- (b) Ordnance: practical and theoretical instruction in infantry and artillery drill, construction of guns, ammunition, powder and explosives.
- (c) Seamanship; boats, types of ships, buoys, ground tackle.
- (d) Communications: Morse code, semaphore alphabet, flags, pennants, signals.

In addition to course 1A-1B, freshmen in the Naval Unit will be required to take course 9, during one semester of their freshman year.

2A-2B. Naval Science (second year). (1½-1½) Yr.

Mr. Warren, Mr. Graybill

Continuation of course 1A-1B. Two hours of classroom work and one hour of drill or practical exercise per week.

(a) Seamanship: hulls and fittings, ground tackle, steering of steamers, duties of officers, weather, towing, maneuvering, emergency drills.

(b) Ordnance: breech mechanisms, firing circuits, gun sights, depth charges, torpedoes, mines, naval gunnery and fire control.

(c) Gunnery: principles of naval gunnery, gunnery training, safety precautions, range finding and keeping, boresighting, gunnery installations and fire control of various types of naval vessels.

In addition to course 2A-2B, sophomores in the Naval Unit will be required to take course 10, during one semester of their sophomore year.

9. Introduction to Practical Navigation. (2) I, II.

Prerequisite: Mathematics C. Mr. Weeks, Mr. Warren, Mr. Levin

Prescribed course for freshmen in the Naval Unit; other students admitted with the consent of the instructor.

NOTE. Courses 9, 10, 109, and 110 include lectures, recitations, and practical work. Fundamental principles of celestial navigation of ships and aircraft; piloting; sailings; great circle sailing; use of sextant, chronometer, gyro compass, nautical almanac, nautical tables; determination of latitude, time, longitude, and azimuth.

10. Introduction to Practical Navigation. (2) I, II.

Prerequisite: course 9.

Mr. Weeks, Mr. Graybill

Prescribed course for sophomores in the Naval Unit.

UPPER DIVISION COURSES

The general prerequisites for admission to the upper division courses are: completion of two years' training in the basic course, selection for further training, and execution of an agreement in writing as explained in the following paragraph:

Any student enrolled in the advanced course of the Naval Reserve Officers' Training Corps who has completed the two academic years in the basic course and who has been selected for further naval training by the President of the University and the Professor of Naval Science and Tactics, and who executes the following written agreement, will be entitled, while not subsisted in kind, to the commutation of subsistence fixed by the Secretary of the Navy in accordance with law:

CONTRACT

In consideration of commutation of subsistence to be furnished in accordance with law, I hereby agree:

First, to continue training in the Advanced Course of the Naval Reserve Officers' Training Corps until the completion thereof as a prerequisite to graduation unless sooner discharged by orders of the Bureau of Navigation, Navy Department;

Second, to devote to naval training the number of hours per academic week prescribed for the Advanced Course in the Department of Naval Science and Tactics by the current annual catalogue of this educational institution, and to devote five hours per week, when prescribed, to such naval training as is ordered;

Third, to participate in one Advanced Course cruise;

Fourth, to be immunized to typhoid fever and smallpox when and as directed to do so by the Professor of Naval Science and Tactics unless satisfactory proof of immunity from these diseases is furnished.

Qualified graduates of the Naval Reserve Officers' Training Corps will on their application be appointed as ensigns in the Volunteer Naval Reserve without professional entrance examination.

Members of the Volunteer Naval Reserve who associate themselves with Fleet Divisions and attend drill with a division will become eligible for transfer to the Fleet Reserve which carries with it retainer pay and better opportunities to qualify for promotion.

101A-101B. Advanced Naval Science (third year). (3-3) Yr.

Mr. Need, Mr. Levin, Mr. Graybill

Three hours of classroom work and one hour of drill or practical exercise per week.

(a) Seamanship: naval leadership, rules of the road, collision and grounding cases.

(b) Gunnery: naval gunnery and fire control, employment of weapons in attack, training.

(c) Engineering: engineering processes, boilers, main engines, auxiliaries, internal combustion engines, operation and management of the engineering department of a naval vessel.

(d) Tactics: elementary tactics, maneuvers, naval battles of the World War, estimate of the situation and formulation of orders.

(e) Communications: organization and operation of the naval communications service.

In addition to 101A-101B students in the Naval Unit will be required to take course 109 during one semester of their junior year.

102A-102B. Advanced Naval Science (fourth year). (3-3) Yr.

Mr. Battle and the Staff

Three hours of classroom work and one hour of drill or practical exercise per week.

(a) Administration: naval policy and administration, naval organization ashore and afloat, Navy Regulations, discipline, Naval Reserve Regulations.

(b) Naval aviation: mission and history of naval aviation, types and uses of naval aircraft, aerology, elementary theory of flying, aircraft engines, aircraft instruments and navigation, aircraft carriers, tactics of naval aircraft.

(c) Military law: naval law, military government and martial law, articles for the government of the Navy, rules of evidence, procedure of naval courts and boards.

(d) Engineering: use of electricity aboard ship, magnetism, generators, motors, storage batteries, electric drive, switchboards, searchlights, interior communication, electric steering, gunnery circuits, radio and sonics.

In addition to 102A-102B students in the Naval Unit will be required to take course 110 during one semester of their senior year.

109. Advanced Practical Navigation. (2) I, II. Mr. Weeks, Mr. Warren

Prerequisite: course 10.

Prescribed course for juniors enrolled in the Naval Unit.

110. Advanced Practical Navigation. (2) I, II. Mr. Need, Mr. Weeks

Prerequisite: course 109.

Prescribed course for seniors enrolled in the Naval Unit.

OCEANOGRAPHY
(Marine Sciences)

- G. F. McEwen, Ph.D., Professor and Curator of Physical Oceanography.
 *FRANCIS B. SUMNER, Ph.D., Professor of Biology.
 HARALD U. SVERDRUP, Ph.D., Professor of Oceanography and Director of the Scripps Institution of Oceanography.
 WILLIAM E. RITTER, Ph.D., LL.D., Professor of Zoölogy, Emeritus.
 THOMAS WAYLAND VAUGHAN, Ph.D., LL.D., Professor of Oceanography and Director of the Scripps Institution of Oceanography, Emeritus.
 WINFRED E. ALLEN, M.A., Assistant Professor of Biology.
 DENIS L. FOX, Ph.D., Assistant Professor of Marine Biochemistry.
 MARTIN W. JOHNSON, Ph.D., Assistant Professor of Marine Biology.
 ERIK G. MOBERG, Ph.D., Assistant Professor of Oceanography.
 CLAUDE E. ZOBELL, Ph.D., Assistant Professor of Marine Microbiology.
 RICHARD H. FLEMING, Ph.D., Instructor in Oceanography.
 ROGER R. REVELLE, Ph.D., Instructor in Oceanography.
 MARSTON C. SARGENT, Ph.D., Instructor in Oceanography.
 PERCY S. BARNHART, M.S., Associate in Oceanography.
 STANLEY W. CHAMBERS, Associate in Physical Oceanography.

The courses in oceanography, except 110, are given at the Scripps Institution of Oceanography at La Jolla, California. For further information concerning the Institution write to the Director.

Advanced degrees: Work leading to the master's or Ph.D. degree in oceanography and certain other marine sciences is offered to a limited number of qualified students subject to the rules and regulations of the University as set forth in the ANNOUNCEMENT OF THE GRADUATE DIVISION, SOUTHERN SECTION. The student must be well trained in the fundamentals before coming to La Jolla. Usually at least two semesters of resident work at Los Angeles will be required of prospective candidates for the doctor's degree, and at least one semester for the master's degree.

Preliminary requirements for a degree in Oceanography: (a) Completion of a baccalaureate major in one of the sciences upon which oceanography is based, viz.: chemistry, geology, mathematics, physics or one of the biological sciences; (b) A reading knowledge of German and French; (c) Mathematics 3A-3B (6); (d) Chemistry 1A-1B (10); (e) Physics 2A-2B (8); (f) Basic courses in one or more of the biological sciences (8). Preparation in physical chemistry, organic chemistry, integral calculus and geology is recommended.

In addition to these preliminary requirements the student is required to complete at least one unit of work in each of four marine sciences besides the research work in his special field.

Requirements for an advanced degree in other fields of study: Through a coöperative arrangement with other departments of the University, a student may do his research work in certain fields of study closely related to oceanography; i.e., biochemistry, physicochemical biology, geological sciences, microbiology, comparative physiology, and zoölogy. The preliminary requirements

* In residence second semester only, 1940-41.

are the same as those listed under the corresponding departments or fields of study in this Catalogue and in the ANNOUNCEMENT OF THE GRADUATE DIVISION, SOUTHERN SECTION. In addition the student is required to complete at least one unit of work in each of three marine sciences besides the work done in his special field. The credentials and proposed study program of the student must be approved by the chairman of the proper department or field of study, the Dean of the Graduate Division, Southern Section, and the Director of the Institution.

Any department of the University is invited to send its students to the Scripps Institution for special work. Ordinarily the department sending students will be responsible for the direction of the work but arrangements can be made for such students to work under the joint direction of the department and the staff of the Institution. Such students may register in one or more of the marine sciences at the Institution or they may register for some other subject in some other department of the University.

Students may not undertake graduate work at the Scripps Institution without approval in advance from the Dean of the Graduate Division, Southern Section.

UPPER DIVISION COURSES

110. Introduction to Physical Oceanography. (2) II. Mr. Revelle
Given on the Los Angeles campus.

- 199A-199B. Special Studies in Marine Sciences. (1-4; 1-4) Yr.

The Staff (Mr. Sverdrup in charge)

Introduction to the research problems, experimental methods and literature of the different marine sciences listed below. Open to advanced students by special arrangement with the chairman of the division in which the work is to be done, subject to the approval of the Director of the Institution.

GRADUATE COURSES

Besides the special prerequisites for each course information concerning which may be obtained upon application, the student must submit to the instructor in charge satisfactory evidence of preparation for the work proposed including the completion of at least twelve units of upper division work basic to the subject of the course. The following are primarily research courses in the different aspects of oceanography.

- 281A-281B. Physical Oceanography. (1-4; 1-4) Yr.

Mr. Sverdrup, Mr. McEwen, Mr. Fleming

A study of the physical properties of sea water, oceanic circulation and its causes.

- 282A-282B. Marine Meteorology. (1-4; 1-4) Yr.

Mr. Sverdrup, Mr. McEwen

Interrelations between the circulation of the oceans and that of the atmosphere.

- 283A-283B. Marine Geology. (1-4; 1-4) Yr.

Mr. Revelle

Configuration of the ocean basins, sedimentation and the study of recent sediments.

284A-284B. Chemical Oceanography. (1-4; 1-4) Yr. Mr. Moberg
Chemistry applied to the study of sea water, plankton and other marine materials.

285A-285B. Marine Microbiology. (1-4; 1-4) Yr. Mr. ZoBell
The distribution of bacteria and closely related microorganisms in the sea and their rôle in chemical, geological, and biological transformations.

286A-286B. Phytoplankton. (1-4; 1-4) Yr. Mr. Allen, Mr. Sargent
Qualitative and quantitative studies of marine phytoplankton.

287A-287B. Marine Invertebrates. (1-4; 1-4) Yr. Mr. Johnson
The distribution, ecology, taxonomy, and productivity of marine zoöplankton and other invertebrates.

288A-288B. Marine Biochemistry. (1-4; 1-4) Yr. Mr. Fox
Comparative biochemistry and physiology of marine animals with special reference to their general metabolism; interrelationships between marine organisms and their environment.

289A-289B. Biology of Fishes. (1-4; 1-4) Yr. Mr. Sumner
The ecology and physiology of fishes with special reference to problems of adaptation to specific factors of marine environments.

PHILOSOPHY

ERNEST C. MOORE, Ph.D., LL.D., Professor of Philosophy and Education.

DONALD A. PIATT, Ph.D., Professor of Philosophy.

HANS REICHENBACH, Ph.D., Professor of Philosophy.

JOHN ELOF BOODIN, Ph.D., Professor of Philosophy, Emeritus.

CHARLES H. RIEBER, Ph.D., LL.D., Professor of Philosophy, Emeritus.

HUGH MILLER, Ph.D., Associate Professor of Philosophy (Chairman of the Department).

RICHARD B. O. HOOKING, Ph.D., Assistant Professor of Philosophy.

J. WESLEY ROBSON, Ph.D., Assistant Professor of Philosophy.

ISABEL CREED, Ph.D., Instructor in Philosophy.

PAUL FRIEDLÄNDER, Ph.D., Lecturer in Latin.

Letters and Science List.—All undergraduate courses in this department are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Twelve units of lower division courses in philosophy, including course 3A-3B.

The Major.—Twenty-four units in upper division courses, not more than six of which may be taken in allied courses in other departments with the approval of the departmental adviser. Not later than the beginning of the senior year, the student must submit for approval to the department a statement of the courses which he expects to offer in fulfillment of major requirements for graduation.

LOWER DIVISION COURSES

All lower division courses are introductory and carry no prerequisite.

1A-1B. *Logic.* (3-3) Beginning either semester.

Mr. Reichenbach, Miss Creed

The forms and principles of valid reasoning in practical life and in the sciences.

2A-2B. *Introduction to Philosophy.* (3-3) Yr.

Mr. Piatt

Elementary survey of the general problems of philosophy and of the fundamental types of philosophy.

3A-3B. *History of Philosophy.* (3-3) Beginning each semester.

Mr. Moore, Mr. Miller, Mr. Robson, Mr. Hocking

An introductory course, tracing the thought of the major philosophers of the ancient and modern world.

40. *Problems of Ethics and Religion.* (2) II.

Mr. Hocking

An introductory study of moral principles, their application, and their relation to religious belief.

41. *Problems of Philosophy.* (2) I.

Mr. Robson

An introduction to some of the central problems of philosophy and typical solutions offered for them.

UPPER DIVISION COURSES

Courses 104A-104B, 112, 121, 136A-136B, 146, 147, 149, 150, 151, 164, and 165 deal with principles of wide fields of study, or treat of the foundations and interrelations of studies pursued in other departments. These are open to students of junior standing who, in the judgment of the instructors, are adequately prepared by work in this or other departments. Such courses should be chosen with reference to the student's major interest.

Courses 102, 115, 116, 117, 118, 119, 122, 123, 124, 141A, 141B, 152, 161, and 199A-199B are devoted to special studies in the history, problems, and theories of philosophy, and are intended primarily for the student majoring in the subject.

102. **Pragmatism.** (2) I.

Mr. Piatt

Prerequisite: six units of credit in philosophy.

A study of pragmatism in relation to American life and thought: James, Schiller, Peirce, Dewey, Mead and others.

104A. **Ethics.** (3) I.

Mr. Piatt

A study of the evolution of morality, and its psychological basis as exemplified in representative ethical theories.

104B. **Ethics.** (3) II.

Mr. Piatt

Prerequisite: course 104A.

Application of ethical theory and method to current social problems, with special reference to fascism, communism, and democracy.

112. **Philosophy of Religion.** (3) I.

Mr. Hocking

A comparative study of religions with reference to the place of religion in modern civilization.

*115. **Kant.** (2) II.

Miss Creed

Prerequisite: course 122 or 123.

Reading of the *Critique of Pure Reason*, together with explanatory and critical comment.

*116. **Plato.** (2) I.

Miss Creed

Prerequisite: course 3A-3B.

The philosophy of Plato.

117. **Aristotle.** (2) I.

Mr. Friedländer

Prerequisite: course 3A-3B.

Aristotle's philosophy and its significance for present thought.

118. **Medieval Philosophy.** (2) I.

Mr. Hocking

A study of medieval thought from Augustine to William of Ockham.

119. **Modern Idealism.** (3) II.

Mr. Hocking

Prerequisite: course 3A-3B.

The historical antecedents and development of post-Kantian idealism.

121. **Political Philosophy.** (3) I.

Mr. Miller

A study of the sources and development of our political institutions.

* Not to be given, 1940-41.

- 122. British Empiricism. (3) II.** Mr. Robson
Prerequisite: Course 3A-3B.
An examination of the philosophies of Locke, Berkeley, and Hume.
- 123. Continental Rationalism. (2) I.** Miss Creed
Prerequisite: course 3A-3B.
The rise of modern science, and the philosophies of Descartes, Spinoza, and Leibniz.
- *124. Nineteenth Century Philosophy. (3) II.** _____
Prerequisite: course 3A-3B.
A survey of those movements of nineteenth century thought which are of importance for the thought of today.
- 136A-136B. Esthetics. (2-2) Yr.** Miss Creed
An examination of basic esthetic form and materials, and of standards of criticism in the arts.
- 141A. Present Tendencies of Thought. (2) I.** Mr. Moore
Prerequisite: course 3A-3B.
A study of contemporary movements in philosophy.
- 141B. Present Tendencies of Thought. (2) II.** Miss Creed
Prerequisite: course 3A-3B.
A study of contemporary realism.
- 146. Philosophy of Literature. (3) II.** Mr. Robson
Comparison between philosophical and literary expressions of typical problems of philosophy.
- 147. Philosophy of History. (3) II.** Mr. Miller
A survey of the basic ideas involved in the treatment of history; the relating of history to theoretical science; a study of selected philosophers of history: Hegel, Marx, Croce, Spengler, and others.
- 149. Introduction to the Philosophy of Science. (3) I.** Mr. Reichenbach
A study of the nature and validity of the methods and most basic concepts of natural science.
- 150. Philosophy of Space and Time. (3) I.** Mr. Reichenbach
Euclidean and non-Euclidean geometry; problem of physical space; representativeness of geometrical systems; structure of time; philosophical elements of Einstein's theory of relativity; gravitation, matter, geometry.
- *151. Philosophy of Nature. (2) II.** Mr. Reichenbach
The physical universe and man's place in it in the light of modern discoveries.
- *152. Metaphysics. (3) II.** Mr. Miller
A critical study of the origin, validity, and limits of metaphysical theory.
- 161. Theory of Knowledge. (3) I.** Mr. Robson
Prerequisite: courses 2A-2B or 3A-3B.
A study of the nature of knowledge, meaning, and truth with reference to present psychological problems and to the methods of the sciences.

* Not to be given, 1940-41.

- *164. Advanced Logic. (3) I.** Mr. Reichenbach
 Elements of logistics; foundations of mathematics; concept of the infinite; paradoxes of logic; logical syntax; logic and language; multivalued logics.
- *165. Foundations of Probability and Statistics. (3) II.** Mr. Reichenbach
 Logical and mathematical theories of probability; development of the mathematical calculus of probability in a logistic form; outlines of a general mathematical theory of probability and statistics; different interpretations of probability; problem of induction; probability logic.
- 198. Conferences and Reading for Honors. (2) I, II.** Miss Creed in charge
 Limited to senior philosophy majors. Conference and reading work in the history of philosophy. May be taken twice for credit.
- 199A-199B. Selected Problems in Philosophy. (2-2) Yr.**
 Mr. Piatt and the Staff

GRADUATE COURSES

- 252. Seminar: Metaphysics. (2) I.** Mr. Miller
- 253. Seminar: Pragmatism. (2) I.** Mr. Piatt
- 254. Seminar: Ethics and Theory of Value. (2) II.** Mr. Piatt
- 257. Seminar: Philosophy of History. (2) II.** Mr. Miller
- *260. Seminar: Philosophy of Mathematics. (2) I.** Mr. Reichenbach
- 262. Seminar: Philosophy of Physics. (2) I.** Mr. Reichenbach
- 263. Seminar: Epistemology. (2) II.** Mr. Reichenbach
- *264. Seminar: Logic. (2) II.** Mr. Reichenbach
- 270. Seminar: Philosophy of Education. (2) II.** Mr. Moore
- 298A-298B. Special Study: Selected Problems of Philosophy. (2-4; 2-4) Yr.**
 Mr. Piatt in charge

* Not to be given, 1940-41.

PHYSICAL EDUCATION FOR MEN

JOHN F. BOVARD, Ph.D., Professor of Physical Education (Chairman of the Department).

FREDERICK W. COZENS, Ph.D., Professor of Physical Education.

WILLIAM H. SPAULDING, A.B., Director of Athletics.

PAUL FRAMPTON, M.A., Associate Supervisor of Physical Education for Men.

CECIL B. HOLLINGSWORTH, M.A., Assistant Supervisor of Physical Education for Men.

WILBUR C. JOHNS, Ed.B., Assistant Supervisor of Physical Education for Men.

DONALD K. PARK, A.B., Assistant Supervisor of Physical Education for Men.

NORMAN D. DUNCAN, M.A., Junior Supervisor of Physical Education for Men.

THOMAS E. HELT, A.B., Junior Supervisor of Physical Education for Men.

EUGENE E. BILLUPS, B.S., Assistant in Physical Education for Men.

M. BRIGGS HUNT, Ed.B., Assistant in Physical Education for Men.

EDWARD A. MURPHY, Assistant in Fencing.

JAMES G. SCHAEFFER, A.B., Assistant in Physical Education for Men.

DONALD MACKINNON, M.D., Physician for Men.

WILLIAM J. NORRIS, M.D., Consultant, Student Health Service.

LEWIS GUNTHER, M.D., Consultant, Student Health Service.

Physical Education 3 is prescribed for all first-year and second-year undergraduate male students who are under twenty-four years of age. A student claiming exemption because of age will present to the Registrar a petition on the prescribed form for such exemption. A student whose health requires either exemption or special assignment will report directly to the Medical Examiner. Pending action on his petition, the student will enroll in and regularly attend the required course in physical education.

Medical Examination.—(a) Students entering the University for the first time and (b) reëntering students must pass a medical examination upon admission. All students are given an examination each year. The examiner may exempt the student from required military training; he may assign the student to a restricted exercise section of Physical Education 3.

The College of Applied Arts

Preparation for the Major.—Chemistry 1A or 2A-2B; Physiology 1; Zoölogy 1A or Biology 1; Zoölogy 35; Physical Education 1, 5, 6, 7, 8, 9, 30, 40.

The Major.—Thirty-six units of upper division courses in physical education and related fields, including courses §120, 131, 140, 149, 182, §190, §192A-192B, 356A-356B, and ten units to be selected from §104B, §114A, §180, §183, 191, 199A, 199B, Education 111, 112, Psychology 110.

The Minor.—Twenty units of coördinated courses (aside from those taken in education), not less than six of which are in the upper division.

§ Courses so marked are listed under the Department of Physical Education for Women.

The Special Secondary Teaching Credential in Physical Education.—In addition to the major, courses 354 and 355A-355B are required. For other requirements consult the ANNOUNCEMENT OF THE SCHOOL OF EDUCATION, LOS ANGELES.

The College of Letters and Science†

Letters and Science List.—Courses 1 and 3 are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

LOWER DIVISION COURSES

1. Hygiene and Sanitation. (2) I, II.

Mr. MacKinnon

†3. Prescribed Physical Education for Freshmen and Sophomores. (‡) I, II. The Staff

Archery, baseball, basketball, boxing, cricket, dance fundamentals, fencing, folk dancing, American football, golf, group games, heavy apparatus, handball, rugby, soccer, social dancing, swimming, tennis, track, tumbling, water polo, wrestling, individual gymnastics. Classes meet twice weekly. Section assignments are made by the department after students have been classified according to their performance in the "General Athletic Ability Test" given by the staff to all entering men during the first week of each semester.

Physical Education 3 may be elected by students in the junior and senior years.

5. First Aid and Bandaging. (2) II.

Mr. Park

The care of common accidents and emergencies on the playground and athletic field.

6. Professional Activities (Men). (2) I.

The Staff

The class meets for two hours three times a week.
Open only to students with a major or a minor in physical education.
The fundamental activities necessary for teaching in the secondary and college fields. Students taking this course are excused from the regular prescribed physical education, course 3.

7. Professional Activities (Men). (2) II.

The Staff

The class meets for two hours three times a week.
Open only to students with a major or a minor in physical education.
A continuation of course 6.

*8. Professional Activities (Men). (2) I.

The Staff

A continuation of course 7.

*9. Professional Activities (Men). (2) II.

The Staff

A continuation of course 8.

† The University of California at Los Angeles does not offer a major in physical education in the College of Letters and Science. In the College of Letters and Science at Berkeley a combination major of physical education and hygiene may be taken. Students planning to become candidates for the degree of Bachelor of Arts at Berkeley, offering this major, are referred to the publications of the departments at Berkeley.

‡ For full statement of the requirement of this course refer to page 86.

* Not to be given, 1940-41.

20. Fundamentals of Scouting. (2) I.**Mr. Frampton**

Need of organizations for youth; history and growth of the Boy Scouts of America; the Boy Scout program; organization of a troop and techniques of troop management; fundamentals involved in troop activities.

Three field trips required.

40. The Technique of Teaching Swimming and Life Saving. (2) II.**Mr. Park**

Preparation for and conduct of the Red Cross Life Saving Test and the Red Cross Life Saving Examiner's Test; advanced techniques in teaching swimming.

UPPER DIVISION COURSES**131. Administration of Physical Education. (3) II.****Mr. Bovard**

Prerequisite: Physical Education for Women 120.

The scope of the field of physical education and its relation to modern education theory. Details of the organization of physical education activities, organization and classification of children, planning of school programs, arrangement and construction of equipment and the principles which govern these.

140. Physical Education Tests and Measurements. (2) I.**Mr. Cozens**

Anthropometric measurements, cardiovascular and physiological ratings, physical efficiency, and motor ability tests. Common tests used in physical education; statistical method applied to physical education measurement.

149. Kinesiology. (3) I.**Mr. Frampton**

Prerequisite: Zoölogy 35.

182. Corrective Physical Education. (3) II.**Mr. Johns**

Prerequisite: course 149.

The application of massage and exercise to the treatment of orthopedic and remedial conditions. Two clinic hours a week to be arranged in addition to lecture and demonstration periods.

191. Conditioning of Athletes and Care of Injuries. (2) II.**Mr. Johns**

Lecture, one hour; laboratory, three hours.

Prerequisite: course 190.

Modern principles and practices in conditioning and care of athletes; individual variation and needs as to sleep, diet, health, and activity habits; care of injuries, including massage, physiotherapy, taping, and protective equipment.

199A-199B. Problems in Physical Education. (1-4; 1-4) Yr.**Mr. Cozens, Mr. Bovard****PROFESSIONAL COURSES IN METHOD****354. The Technique of Teaching Elementary School Activities. (2) I.****Mr. Frampton**

The technique of teaching activities in the elementary school leading up to games of higher organization.

355A-355B. The Technique of Teaching Gymnastic Activities. (2-2) Yr. Mr. Hollingsworth

Prerequisite: training in gymnastics, and boxing or wrestling.

Tactics, free exercises, apparatus, gymnastic dancing, and gymnastic games.

***356A. The Technique of Teaching Athletic Activities. (2) I.**

Mr. Spaulding, Mr. Frampton, Mr. Johns, Mr. Schaeffer

Prerequisite: the consent of the instructor.

Track, rugby, and basketball.

***356B. The Technique of Teaching Athletic Activities. (2) II.**

Mr. Spaulding, Mr. Frampton, Mr. Johns, Mr. Schaeffer

Prerequisite: the consent of the instructor.

Football, baseball, and soccer.

GRADUATE COURSES

250A-250B. Seminar in Physical Education. (3-3) Yr. Mr. Bovard

Prerequisite: the consent of the instructor.

A study of the theory of physical education, a critical review of selected studies, literature, and practices.

276. Research in Physical Education. (2) I. Mr. Cozens

Prerequisite: the consent of the instructor.

The meaning, methods, and techniques of research procedure; applications of this training to the independent solution of a problem.

277. Research in Physical Education Measurement. (2 to 4) II.

Prerequisite: the consent of the instructor.

Mr. Cozens

For advanced students who have problems requiring research in tests and measurement or advanced statistical procedures.

278. Research Problems. (2 to 4) I, II. Mr. Bovard

Prerequisite: the consent of the instructor.

For advanced students who have problems in organization, administration, or biological backgrounds of physical education.

COURSES LISTED IN THE

DEPARTMENT OF PHYSICAL EDUCATION FOR WOMEN

120. Principles of Physical Education. (2) II. Miss Cubberley

190. Physiology of Exercise. (3) I. Mr. Bovard, Mrs. Johnson

192A-192B. Administration of Health Education. (3-3) Yr.
Miss Harshberger, Mrs. Johnson

* Not to be given, 1940-41.

PHYSICAL EDUCATION FOR WOMEN

JOHN F. BOVARD, Ph.D., Professor of Physical Education (Chairman of the Department).

FREDERICK W. COZENS, Ph.D., Professor of Physical Education.

HAZEL J. CUBBERLEY, M.A., Associate Supervisor of Physical Education for Women.

MARTHA B. DEANE, B.S., Associate Supervisor of Physical Education for Women.

DIANA W. ANDERSON, M.A., Assistant Supervisor of Physical Education for Women and Supervisor of Training, Physical Education.

LUCILE R. GRUNEWALD, M.A., Assistant Supervisor of Physical Education for Women.

EDITH R. HARSHBERGER, M.A., Assistant Supervisor of Physical Education for Women.

BERNECE H. HOOPER, M.A., Assistant Supervisor of Physical Education for Women.

EDITH I. HYDE, M.A., Assistant Supervisor of Physical Education for Women.

MARION S. MATTEEN, M.A., Assistant Supervisor of Physical Education for Women.

ORSIE THOMSON, M.A., Assistant Supervisor of Physical Education for Women.

GEORGIA B. JOHNSON, Ph.D., Instructor in Physical Education for Women.

MARJORY G. ALLEN, Ed.B., Junior Supervisor of Physical Education for Women.

MARGARET DUNCAN, M.A., Junior Supervisor of Physical Education for Women.

JOSEPHINE E. KETCIK, Ed.B., Junior Supervisor of Physical Education for Women.

ETHEL S. BRUCE, Associate in Physical Education for Women.

DAISY DUNHAM, Assistant in Physical Education for Women and Pianist.

ROBERT TYLER LEE, Assistant in Dance and Assistant in Art.

LILLIAN R. TITCOMB, M.D., Physician for Women.

The College of Applied Arts

Preparation for the Major.—Courses 5, 30, 31, 32; Chemistry 1A or 2A-2B, Biology 1, Physiology 1, and Zoölogy 35.

The Major.—Thirty-six units of upper division courses in physical education and related fields including: Courses 120, 149, 171, 172, 182, 190, 192A-192B, and fifteen units to be selected from 104A-104B, 114A, 114B, 131, 133, 135, 140, 180, 183, Education 111, 112, 180, Psychology 110.

The Minor.—Twenty units of coördinated courses (aside from those taken in education), not less than six of which are in the upper division.

The Special Secondary Teaching Credential in Physical Education.—In addition to the major courses 321A-321B and 321C-321D are required. For other requirements consult the ANNOUNCEMENT OF THE SCHOOL OF EDUCATION, LOS ANGELES.

The College of Letters and Science*

Letters and Science List.—Courses 2, 4, 44, 114A–114B, 133, 135, and 180 are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

LOWER DIVISION COURSES

2. Hygiene. (2) I, II.

Mrs. Titcomb

†4. Prescribed Physical Education for Freshmen and Sophomores. (†) I, II.
Miss Deane and the Staff

Classes meet twice weekly. Section assignments are made only by the department.

The following activities are offered: dance fundamentals, folk dancing, character dancing, swimming, tennis, golf, lacrosse, badminton, archery, volleyball, hockey, basketball, soccer, games for the elementary school, and dancing for the elementary school. Students whose physical condition indicates the need of modified activity are assigned to individual physical education classes.

Candidates for the general elementary teaching credential are required to take one semester each of games and dancing for the elementary school, in addition to two elective courses.

Course 4 may be elected for credit by students of junior and senior standing.

5. Safety Education and First Aid. (2) I, II.

Mrs. Johnson

Prevention and care of common accidents and emergencies in the home and school.

30. Introduction to Physical Education. (1) I.

Miss Hyde

The scope and significance of physical education in the modern school program.

31. Professional Activities (Women). (3) I. Miss Deane, Miss Hooper,
Mrs. Dunham, Mrs. Johnson, Miss Ketcik

Open only to students with a major or minor in physical education.

Fundamental *rhythmic* activities necessary for teaching on the secondary and college levels; music analysis for dance.

Students taking this course are excused from the physical education requirement, course 4.

32. Professional Activities (Women). (3) II.

Mrs. Bruce, Mrs. Mattern, Miss Thomson

Open only to students with majors or minors in physical education.

Fundamental *athletic* activities necessary for teaching on the secondary and college levels.

Students taking this course are excused from the physical education requirement, course 4.

* The University of California at Los Angeles does not offer a major in physical education in the College of Letters and Science. A group major in physical education and hygiene is offered in the University at Berkeley. Students wishing to satisfy the requirements for this major are referred to the *General Catalogue* of the departments at Berkeley.

† For full statement of the requirement of this course refer to page 86.

40. The Technique of Teaching Swimming and Life Saving. (2) II.

Mrs. Mattern

Preparation for and conduct of the Red Cross Life Saving Tests and the Red Cross Life Saving Instructor's Test; advanced technique in teaching swimming.

Students must be at least twenty years of age to receive the Red Cross Life Saving Instructor's Certificate.

44. Principles of Health Education. (2) I, II.

Miss Harshberger

A study of personal and community health problems.

UPPER DIVISION COURSES**104A. Club Activities. (2) I.**

Miss Hooper

Training course for leaders of girls' clubs and school organizations. Organization and program planning, and analysis of problems of leadership. Practical experience in leadership in one of the local council organizations in the city.

104B. Camp Craft. (2) II.

Miss Hooper

Training course for camp counselors. Theory and practice in camp activities. Practical experience in camp skills in week-end training camp at Pacific Palisades.

114A. Folk Festivals. (2) I.

Miss Hooper

The purpose, source of material, organization and administration of folk festivals. Presentation of a Christmas folk festival.

114B. Folk Festivals. (2) II.

Miss Hooper

Study of folk lore, festivals, and pageants. An original folk festival or pageant is required from each student.

120. Principles of Physical Education. (2) II.

Miss Cubberley

A survey of the more significant influences which serve as a foundation for theory and practice in physical education. The implications of these factors with respect to objectives, methods, and materials of physical education.

133. Dance Recital. (3) II.

Miss Deane, Mr. Lee, Miss Ketcik

Prerequisite: course 31 or 4 (Advanced Dance Fundamentals).

Development of dances for a recital program. Production work on sets and costumes. Participation in dance recital.

135. History of Dance and the Related Arts. (2) I, II.

Mr. Lee

Prerequisite: course 31 or the equivalent.

A study of the relation of music, costume, and dance in various periods.

149. Kinesiology. (8) I.

Miss Grunewald

Prerequisite: Zoölogy 35.

A study of the joint and muscular mechanism of movements.

171. Organization of Athletics. (2) I.

Miss Thomson

Prerequisite: courses 120, 321A-321B.

A study of practical problems involved in the conduct of athletic programs in secondary schools and colleges. Emphasis is placed upon the organization of activities for a playday for the Los Angeles County elementary schools. Reports of special investigations and committee work.

- 172. Organization of Dance. (2) I.** Miss Deane
Prerequisite: courses 120, 321C-321D.
A study of public performances in the school program: their purpose, types, sources of material, development, organization and presentation. The use of dance, music, lighting, costuming, etc.
- 180. Administration of Community Recreation. (2) II.** Miss Hooper
Prerequisite: senior standing.
Designed to meet the needs of recreation leaders in playgrounds, industrial organizations, and social service institutions.
- 182. Corrective Physical Education. (3) II.** Miss Grunewald
Prerequisite: course 149.
Study of body mechanics and of the causes and treatment of faulty antero-posterior and lateral deviations and foot and leg conditions, with special emphasis on the individual program adaptations and corrective procedures. Methods of teaching corrective gymnastics to large groups.
- 183. Massage and Therapeutic Exercise. (3) I.** Miss Grunewald
Prerequisite: course 182.
Study of massage and therapeutic exercises applied in the treatment of disturbances of the cardio-vascular, nervous, muscular, and digestive systems.
- 190. Physiology of Exercise. (3) I.** Mr. Bovard, Mrs. Johnson
Prerequisite: Physiology 1.
A study of the effects of physical education activities on the human organism and the physiological bases for program construction.
- 192A. Administration of Health Education. (3) I.**
Prerequisite: course 190. Miss Harshberger, Mrs. Johnson
Health instruction in the elementary and secondary schools. A study of learning experiences directed toward the development of health knowledge, practices and attitudes and their function in improving health behavior.
- 192B. Administration of Health Education. (3) II.**
Prerequisite: course 190. Miss Harshberger, Mrs. Johnson
Health protection. A consideration of the problems, principles, and methods involved in the supervision of child health in schools, camps, and playgrounds.
- 192C. Administration of Health Education. (2) I.** Miss Harshberger
Not open to majors in physical education or to students who have credit for courses 192A, 192B. Planned for a minor for general secondary students.
An analysis of health problems in the secondary school.

PROFESSIONAL COURSES IN METHOD

- 321A-321B. Principles of Teaching Athletics. (2-2) Yr.** Miss Thomson
Prerequisite: course 32 or the equivalent.
Analysis of problems in teaching athletic activities, including techniques and game forms, with special reference to their use in planning lesson units. Advanced practice is offered in team activities with emphasis on the interpretation of rules and the technique of officiating.
Field work in officiating in the city schools and recreation centers is required.

321C-321D. Principles of Teaching Dance. (2-2) Yr. Miss Deane
 Prerequisite: satisfactory completion of lower division courses in dancing.

A survey of the program in dance from kindergarten to university. Practice in dance fundamentals—intermediate.

330. Physical Education in the Elementary School. (3) I, II.

Miss Anderson
 Prerequisite: junior standing, courses 44 and 4 (games and dancing for the elementary school) or the equivalent, and Education 111.

Required of all candidates for the General Elementary Credential. Each student must plan a program with two consecutive hours a week free for observation, between the hours of 9 a.m. and 3 p.m.

COURSES LISTED IN THE
 DEPARTMENT OF PHYSICAL EDUCATION FOR MEN

131. Administration of Physical Education. (3) II. Mr. Bovard

140. Tests and Measurements in Physical Education. (2) I. Mr. Cozens

199A-199B. Problems in Physical Education. (1-4; 1-4) Yr.
 Mr. Bovard, Mr. Cozens

250A-250B. Seminar in Physical Education. (3) Yr. Mr. Bovard

276. Research in Physical Education. (2) I. Mr. Cozens

277. Research in Physical Education Measurement. (2 to 4) II.
 Mr. Cozens

278. Research Problems. (2 to 4) I, II. Mr. Bovard

PHYSICS

SAMUEL J. BARNETT, Ph.D., Professor of Physics.
 JAKOB BJERKNES, Ph.D., Professor of Meteorology.
 JOSEPH KAPLAN, Ph.D., Professor of Physics (Chairman of the Department).
 VERN O. KNUDSEN, Ph.D., Professor of Physics.
 JOHN MEAD ADAMS, Ph.D., Associate Professor of Physics.
 LAURENCE E. DODD, Ph.D., Associate Professor of Physics.
 HIRAM W. EDWARDS, Ph.D., Associate Professor of Physics.
 JOSEPH W. ELLIS, Ph.D., Associate Professor of Physics.
 E. LEE KINSEY, Ph.D., Associate Professor of Physics.
 ARTHUR H. WARNER, Ph.D., Assistant Professor of Physics.
 NORMAN A. WATSON, Ph.D., Instructor in Physics.
 LEO P. DELSASSO, A.B., Associate in Physics.

SIDNEY M. RUBENS, Ph.D., Research Associate in Physics.

Letters and Science List.—All undergraduate courses in physics are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Required: Physics 1A, 1B, 1C, 1D, or their equivalents (in meritorious cases Physics 2A–2B may be accepted) with an average grade of C or higher; Chemistry 1A–1B; Mathematics C, 3A, 3B, 4A, or their equivalents. Recommended: a reading knowledge of German and French.

The Major.—Twelve units of upper division physics, consisting of 105, 107A, 108B, 108C, and 110A; and twelve units chosen from other upper division courses in physics, Mathematics 119, 122A–122B, 124, 125, Chemistry 110, and Astronomy 117A–117B, 199A–199B. At least eight of these latter twelve units shall be courses in the Department of Physics.

Laboratory Fees.—Courses 1A, 1B, 1C, 1D, 2A, 2B, \$5; 108A, 109, \$6; 107A, 107B, 108C, 113C, 114C, 116C, 116D, \$12. The student will, in addition, be held responsible for all apparatus lost or broken.

PHYSICS

LOWER DIVISION COURSES

Prerequisite for 1A, 1B, 1C, 1D: either (1) the high school course in physics, or (2) trigonometry and the high school course in chemistry. Prerequisite for course 2A–2B: (1) three years of high school mathematics, or (2) two years of high school mathematics and college algebra. Prerequisites for course 4A–4B are elementary algebra and plane geometry.

Physics 1A, 1B, 1D and 1C constitute a two-year sequence in general physics which is required of, or recommended for, major students in physics and astronomy and of students in pre-engineering, pre-mining, and pre-chemistry. Physics 1A and 1B are required of students in architecture, and Physics 1A and either 1B, 1C or 1D are required of major students in chemistry. Other students may elect any part of the course but at least two parts are necessary

to meet the laboratory requirement for the Junior Certificate. Physics 1A is prerequisite to any of the other courses in this sequence.

Students who have credit for courses 2A-2B or 4A-4B may receive additional credit of not more than one and one-half units for each of courses 1A and 1B, and not more than two units for each of courses 1C and 1D. In general, not more than twelve units of credit will be given for any amount of lower division work. Credit in excess of twelve units will be given only in exceptional cases, when approved by the department.

1A. General Physics: Mechanics of Solids. (3) I, II.

Mr. Adams, Mr. Ellis, Mr. Dodd, Mr. Watson

Lecture and laboratory, four hours; demonstration one hour. Fee, \$5.

1B. General Physics: Mechanics of Liquids, and Heat. (3) II.

Mr. Dodd, Mr. Kinsey, Mr. Watson

Lecture and laboratory, four hours; demonstration one hour. Fee, \$5.

Prerequisite: course 1A.

1C. General Physics: Electricity and Magnetism. (3) I, II. Mr. Delsasso

Lectures, two hours; laboratory, three hours.

Prerequisite: course 1A and a knowledge of elementary calculus. Fee, \$5.

1D. General Physics: Light and Sound. (3) I.

Mr. Ellis

Lectures, two hours; laboratory, three hours. Fee, \$5.

Prerequisite: course 1A.

2A-2B. General Physics. (4-4) Yr. Mr. Edwards, Mr. Kaplan, Mr. Kinsey

Lecture, three hours; laboratory, two hours; demonstration, one hour.

Fee, \$5 a semester.

Mechanics, sound, heat, light, electricity. Prescribed for premedical students.

4A-4B. General Physics. (3-3) Yr.

Mr. Barnett

Prerequisite: elementary algebra and plane geometry.

A descriptive course fully illustrated by experiments. Course 4B may be taken before 4A with permission of the instructor.

UPPER DIVISION COURSES

Prerequisite for all upper division courses: Physics 1A, 1B, 1C, 1D, or 2A-2B (in special cases, 4A-4B); Mathematics 3B, 4A; or the equivalents.

105. Analytic Mechanics. (3) I.

Mr. Delsasso

The statics and dynamics of particles and rigid bodies.

107A. Electrical Measurements. (3) I.

Mr. Warner, Mr. Delsasso

Prerequisite: course 1C. Fee, \$12.

Laboratory exercises in the measurement of direct current quantities, with explanatory lectures on electricity and magnetism.

107B. Electrical Measurements. (3) II.

Mr. Warner, Mr. Delsasso

Prerequisite: course 107A. Fee, \$12.

Laboratory exercises with alternating current circuits, and lectures on electric circuit theory, the propagation of electric waves, and thermionic vacuum tubes.

- 108A. Geometrical Optics. (3) II.** Mr. Dodd
Lectures, demonstrations, and laboratory.
Prerequisite: course 1D or 2B, or equivalent. Fee, \$6.
Geometrical methods applied to the basic optics of mirrors, prisms, and lenses. The Hamiltonian approach to the problems of convergent and divergent optical systems.
- 108B. Physical Optics. (3) I.** Mr. Ellis, Mr. Watson
Lectures and demonstrations. Interference, diffraction, polarization, and their applications.
- 108C. Physical Optics Laboratory. (1) I.** Mr. Watson
Fee, \$12.
- 109. Modern Optical Instruments. (3) I.** Mr. Dodd
Prerequisite: course 108A. Fee, \$6.
Specialized studies, conducted on a semiseminar basis with lectures and laboratory, in the applied optics of modern instruments as used in industrial laboratories, photogrammetry, astronomy, range-finding, surgery, etc. Attention given to methods of design.
- 110A. Electricity and Magnetism. (2) I.** Mr. Barnett
The elementary mathematical theory, with a limited number of experimental demonstrations.
- 110B. Electricity and Magnetism. (3) II.** Mr. Barnett
Prerequisite: course 110A. A continuation of course 110A.
- 112. Heat. (3) I.** Mr. Adams
Thermodynamics, with applications to physical chemistry.
- 113. Introduction to Spectroscopy and Quantum Theory. (3) II.** Mr. Ellis
- 113C. Spectroscopy Laboratory. (1) II.** Mr. Watson
Fee, \$12.
Prerequisite or concurrent: course 113 or Astronomy 117B.
- 114A-114B. Mechanics of Wave Motion and Sound. (3-3) Yr.** Mr. Knudsen
Lectures and demonstrations on the fundamental theory of wave motion and sound, with applications to recent developments in acoustics.
- 114C. Mechanics of Wave Motion and Sound Laboratory. (1) II.** Mr. Knudsen, Mr. Delsasso
Prerequisite: courses 107 and 114B or consent of the instructor. Fee, \$12.
- 115. Kinetic Theory. (3) II.** Mr. Adams
The classical kinetic theory of gases, with applications to viscosity, diffusion, and thermal conduction.
- 116A-116B. Electronics. (3-3) Yr.** Mr. Warner
Prerequisite: senior standing.
The properties of electrons; thermionic and photoelectric emission; the conduction of electricity in solids and gases; vacuum tubes and circuits.
- 116C-116D. Electronics Laboratory. (1-1) Yr.** Mr. Warner
Fee, \$12 a semester.

121. Atomic Physics. (3) II.

Mr. Adams

An introductory view of the properties and constituents of atoms, as disclosed by the advances of the past thirty-five years.

Lectures with demonstrations, and readings.

199A-199B. Special Problems in Physics. (2-2) Yr. Mr. Kaplan in charge**GRADUATE COURSES**

Courses 210A-210B, 215, and 220A are required of all candidates for the master's degree with major in physics.

208. Classical Optics. (3) I.

Mr. Ellis

Propagation of light waves in isotropic and anisotropic media, interference, diffraction, dispersion, and polarization on the basis of the electro-magnetic theory of light.

210A-210B. Electricity and Magnetism; Advanced Course. (3-3) Yr.

Mr. Barnett

Electrostatics, electrodynamics, electron theory, magnetism, restricted theory of relativity, theory of radiation. Open to graduate students who have taken 110A-110B, and to other graduate students with the consent of the instructor.

***212. Thermodynamics. (3) I.**

Mr. Kaplan

***213A. Spectra and Structures of Diatomic Molecules. (3) II. Mr. Ellis**

Rotational, vibrational, electronic, and Raman spectra of diatomic molecules, with applications.

213B. Spectra and Structures of Polyatomic Molecules. (3) II. Mr. Ellis

Rotational, vibrational, and Raman spectra of polyatomic molecules in the gaseous, liquid, and solid states.

215. Statistical Mechanics. (3) II.

Mr. Kaplan

220A. Theoretical Mechanics. (3) I.

Mr. Kinsey

220B. Theoretical Mechanics. (3) II.

Mr. Kinsey

***220C. Quantum Mechanics. (3) II.**

Mr. Kinsey

260. Seminar in Physics. (2 or 3)

Mr. Kaplan in charge

For 1940-41: *Military Acoustics* (3) I.

Mr. Knudsen

Acoustics. (3) II.

Mr. Knudsen

Mechanics of Deformable Bodies. (3) I.

Mr. Kaplan

290A-290B. Research. (1-3; 1-3) Yr.

Mr. Kaplan in charge

COURSES IN ANOTHER DEPARTMENT**Astronomy 117A-117B. Astrophysics. (3-3) Yr.**

Mr. Kaplan

Astronomy 199A-199B. Sec. 2. Special Studies in Astrophysics. (2-2) Yr.

Mr. Kaplan

* Not to be given, 1940-41.

METEOROLOGY**UPPER DIVISION COURSES**

- 100A-100B. **Introduction to Meteorology.** (3-3) Yr. Mr. Bjerknes
100C-100D. **Meteorological Laboratory.** (2-2) Yr. Mr. Bjerknes and Staff
101A-101B. **Introduction to Theoretical Meteorology.** (3-3) Yr. ———
199A-199B. **Special Problems in Meteorology.** (1-3; 1-3) Yr.
Mr. Bjerknes in charge

GRADUATE COURSES

- 200A-200B. **Meteorology.** (3-3) Yr. Mr. Bjerknes
200C-200D. **Advanced Meteorological Laboratory.** (3-3) Yr.
Mr. Bjerknes and Staff
290A-290B. **Research in Meteorology.** (1-6; 1-6) Yr.
Mr. Bjerknes in charge

POLITICAL SCIENCE

MALBONE W. GRAHAM, Ph.D., Professor of Political Science.

J. A. C. GRANT, Ph.D., Professor of Political Science (Chairman of the Department).

¹**CHARLES G. HAINES, Ph.D.,** Professor of Political Science.

FRANK M. STEWART, Ph.D., Professor of Political Science and Director of the Bureau of Governmental Research.

CHARLES H. TITUS, Ph.D., Professor of Political Science.

H. ARTHUR STEINER, Ph.D., Associate Professor of Political Science.

WINSTON W. CROUCH, Ph.D., Assistant Professor of Political Science.

RUSSELL H. FITZGIBBON, Ph.D., Assistant Professor of Political Science.

DEAN E. MCHENRY, Ph.D., Assistant Professor of Political Science.

JOHN H. HALLOWELL, Ph.D., Instructor in Political Science.

Letters and Science List.—All undergraduate courses in political science are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Course 3A-3B, or its equivalent, and one of the following: Political Science 10, 31, 32, 34. Recommended: Economics 1A-1B, Geography 1A-1B, History 4A-4B, 5A-5B, 8A-8B.

Students intending to select political science as a major subject are advised to take one course in political science throughout the year in each of the freshman and sophomore years.

The Major.—Twenty-four units in upper division courses, not more than four of which may be taken in courses approved by the department in anthropology, business administration, economics, geography, history, philosophy, psychology, or sociology. The work must be divided among the different fields of political science in accordance with the requirements of the department. A copy of the regulations may be obtained from the departmental adviser. The student must maintain an average grade of C or higher in upper division courses in political science.

Related Curricula.—For the Curriculum in Public Service and the Curriculum in International Relations, students are referred to pages 69, 70 of this Catalogue.

LOWER DIVISION COURSES

3A-3B. American Government. (3-3) Beginning either semester.

Mr. Fitzgibbon, Mr. McHenry, Mr. Crouch, Mr. Hallowell

A study of principles and problems in relation to the organization and functions of the American system of government.

Students who have credit for American Institutions 101 will receive only one unit for Political Science 3A.

10. The Anglo-American Legal System. (3) II.

Mr. Grant

Prerequisite: sophomore standing.

The development of the English and Roman legal systems; elementary principles of the common law, as modified by statutes and judicial decisions.

¹ In residence first semester only, 1940-41.

- 31. Parliamentary Governments. (3) I, II.** Mr. Fitzgibbon, Mr. McHenry
Prerequisite: sophomore standing and course 3A-3B.
A comparative study of constitutional principles, governmental institutions, and political problems, primarily with respect to England.
This course duplicates 31A given prior to September, 1938, and is equivalent to Political Science 1A given at the University of California, Berkeley.
- 32. Government of European Dictatorships. (3) I, II.** Mr. Fitzgibbon
Prerequisite: sophomore standing and course 3A-3B.
An introductory study of the governments of Italy, Germany, and the Soviet Union, with emphasis upon dictatorial technique and ideology, the transformation of governmental institutions, and contemporary problems.
This course duplicates 31B given prior to September, 1938, and is equivalent to Political Science 1B, given at the University of California, Berkeley.
- 34. American State and Local Government. (3) I.** Mr. Crouch
Prerequisite: sophomore standing and course 3A-3B.
Development of state constitutions. The legislative, executive, and judicial departments in state government; popular methods of control; and relation between the state and local rural government, with special reference to California.

UPPER DIVISION COURSES

Prerequisite for all courses: course 3A-3B, or its equivalent.

- 110. History of Political Ideas. (3) I, II.** Mr. Hallowell
An exposition and critical analysis of the ideas of the major political philosophers and schools from Plato to Burke, with emphasis on the setting, the logical structure of their systems, and the significance of these ideas in terms of the contemporary scene.
- 112. Modern Political Thought. (3) II.** Mr. Hallowell
An exposition and critical analysis of the ideas of the major schools of thought from Kant to the present day.
- 113. American Political Theory. (3) I.** Mr. Hallowell
A survey of the development of American ideas concerning political authority from Cotton and Williams to Hoover and Roosevelt.
- *117. Jurisprudence. (3) II.** Mr. Haines
Development of law and legal systems; comparison of methods and procedure in making and enforcing law in Roman and common law systems; consideration of fundamental legal concepts; contributions and influence of modern schools of legal philosophy in relation to law and government.
- *118. Nature of the State. (3) II.** Mr. Hallowell
Prerequisite: course 110 or 112.
An attempt to develop by critical dialectic a coherent theory of the state. Concepts such as sovereignty, law, liberty, rights, equality will be especially emphasized.
- 120. Colonies in World Politics. (2) II.** Mr. Fitzgibbon
A brief survey of the more important historical imperialistic systems, followed by a study of colonial governments and the problems of imperialism in the world today.

* Not to be given, 1940-41.

125. Foreign Relations of the United States. (3) I.**Mr. Graham**

A survey of the factors and forces entering into the formation and carrying out of American foreign policy, with special emphasis on contemporary problems.

126. Contemporary Hispanic-American International Relations. (3) II.**Mr. Fitzgibbon**

A study of international relations of the Hispanic-American countries in recent decades, (a) among themselves, (b) with the United States, (c) with Europe and Asia; current developments in such matters as boundary disputes, arbitration and conciliation, Pan-American conferences; Hispanic-American participation in the League of Nations.

127. International Relations. (3) I, II.**Mr. Graham, Mr. Steiner**

A general survey of the institutions and agencies of international government with major stress on outstanding issues in the diplomacy of the post-war period.

133A-133B. International Law. (3-3) Yr.**Mr. Steiner**

A critical analysis of the general principles of the law of nations as demonstrated in the decisions of international and municipal tribunals and in the practices of nations.

136. Problems of the Pacific Area. (3) II.*Mr. Steiner**

A contemporary survey of the internal problems of China and Japan and of the factors underlying Sino-Japanese conflict; also, a brief summary of the problems of other powers having interests in the Pacific.

138. International Relations of the Far East. (3) II.**Mr. Steiner**

A survey of the relations of China and Japan with the western world and with each other, with an analysis of their conflicting interests.

141. Political Parties and Practical Politics. (3) I, II.**Mr. Titus**

An analysis of the organization, functions, and activities of political parties; a study of pressure groups and defensive mechanisms to offset political programs; and an introduction to the technique of playing practical politics.

142. Elections. (2) I.**Mr. Titus**

An analysis of the history, rules, procedure, techniques, and politics of the American system of elections.

143. Legislatures and Legislation. (2) II.**Mr. Grant, Mr. McHenry**

The functions of legislatures, the organization and procedure of typical legislative bodies, and the problems and principles of law making.

146. Public Opinion and Propaganda. (2) II.**Mr. Titus**

Prerequisite: one upper division course in political science.

A study of the nature and the means of formation of public opinion. Public opinion as a factor in popular government and as a control device in the modern state with special reference to current conditions in American democracy.

151. The Governments of Hispanic America. (3) I.**Mr. Fitzgibbon**

The governments of representative states; a study of constitutional development, political practices, and the elements of strength and weakness in contemporary governmental organization.

* Not to be given, 1940-41.

153. The Governments of the British Empire. (2) I. Mr. McHenry
The constitutional and political relations of the imperial and Dominion governments; the governments of India, the crown colonies, the protectorates and the mandated territories.

154. The Governments of Central Europe. (3) I. Mr. Graham
An intensive study of the breakdown of the Austro-Hungarian Empire and the constitutional reorganization of the Danubian Succession States, with special attention to contemporary and political issues, parties, elections, and foreign relations.

155. The Governments of Eastern Europe. (3) II. Mr. Graham
An intensive study of the breakdown of the Russian Empire and the constitutional reorganization of the Soviet Union and the Baltic States, with special attention to contemporary political issues, parties, elections, and foreign relations.

156. Administrative Law. (3) I. Mr. Haines
The rights, duties, and liabilities of public officers; relief against administrative action; extraordinary legal remedies; jurisdiction, conclusiveness, and judicial control; legal principles and tendencies in the development of public administration.

157A-157B. Constitutional Law. (3-3) Beginning each semester.
Mr. Haines, Mr. Grant
General principles of constitutional law, federal and state; relations and powers of the federal government and the states; limitations on the federal government and the protection accorded to individual rights under the American constitutional system.

158. Government and Business. (3) I. Mr. Grant
Governmental activities in the preservation and regulation of competition, with special emphasis upon problems of administration and intergovernmental coöperation. Regulation of trades and professions.

162. Municipal Government. (3) I, II. Mr. Stewart, Mr. Crouch
A comparative study of the modern municipality in the United States and the principal countries of Europe; history and growth of cities; relation of city to the state; legal aspects of city government; parties and electoral problems; types of municipal organization, mayor and council, commission, and city manager; problems of metropolitan areas.

163. Municipal Administration. (3) II. Mr. Crouch
Development of modern concepts and methods of administration in cities; management and control of administrative organization, city planning, financial administration, protection of life and property, health, housing, social welfare, municipal utility administration.

181. Principles of Public Administration. (3) I. Mr. Stewart, Mr. Crouch
Development of public administration and its relation to other branches of government; the process of centralization; the process of integration; reorganization of administration; budgets; purchasing; problems of personnel; and types of control of the administration.

***182. Lectures in Public Administration. (1) II. Mr. Stewart, Mr. Crouch**

A special series of lectures offered by members of the department and public officials on various contemporary problems of public administration, with special reference to the metropolitan community.

May be taken twice for credit.

183. Problems in Public Administration. (8) I.

Mr. Stewart

Activities of the national, state, and local governments are studied. Certain of the following problems will be analyzed: highway administration; state and regional planning; public welfare; police administration; and selected topics in national administration.

185. Public Personnel Administration. (3) II.

Mr. Stewart

Evolution of public employment policies; a study of the principles and practices of public service personnel, including recruitment, promotion, morale and discipline, retirement, classification, compensation, unions of employees, organization of the personnel agency, and training for public employment.

199A-199B. Special Problems in Political Science. (2-2) Yr.

Prerequisite: credit for six units of upper division courses in political science, and the special requirements necessary for the field selected for special study. Permission to register for this course is required.

Section 1. Techniques of Legal Research.

Mr. Grant

Section 2. Problems in International Relations.

Mr. Steiner

Section 3. Readings in Political Theory.

Mr. Hallowell

Section 6. Problems in Politics and Legislation.

Mr. McHenry

Section 7. Problems in Latin-American Political Institutions.

Mr. Fitzgibbon

GRADUATE COURSES**252A-*252B. Seminar in Public Law. (2-2) Yr.**

Mr. Haines

253A-253B. Seminar in International Relations. (2-2) Yr.

Mr. Graham

254A-254B. Seminar in Public Administration. (2-2) Yr.

Mr. Stewart

255A-255B. Seminar in Comparative Constitutional Law. (2-2) Yr.

Mr. Grant

256A-256B. Seminar in Comparative Government. (2-2) Yr.

Mr. Fitzgibbon, Mr. Steiner

257A-257B. Seminar in Political Theory. (2-2) Yr.*259A-259B. Seminar in Political and Electoral Problems. (2-2) Yr.**

Mr. Titus

***262A-262B. Seminar in Municipal Government. (2-2) Yr.**

Mr. Stewart

275A-275B. Special Study and Research. (2-6; 2-6) Yr.

The Staff

AMERICAN INSTITUTIONS**101. American Institutions. (2) I, II.**

Mr. Titus, Mr. McHenry

The fundamental nature of the American constitutional system and of the ideals upon which it is based. This course satisfies the "Requirement of American Institutions." (See page 39.)

This course may not be applied toward the Political Science major, and is not open to students who have credit for Political Science 3A.

* Not to be given, 1940-41.

BUREAU OF GOVERNMENTAL RESEARCH

The Bureau of Governmental Research was established in 1937 chiefly to perform the three functions of: (1) maintaining a collection of current pamphlets, periodicals, and documents relating to public administration and local governments; (2) providing facilities for upper division and graduate students and members of the faculty to pursue study and research in public administration, local government, and related fields; and (3) conducting studies of governmental functions of particular interest to southern California and coöperating with public officials in solving their administrative problems.

Further information may be obtained by consulting the Director, Mr. Frank M. Stewart, Room 42, Library.

PSYCHOLOGY

KNIGHT DUNLAP, Ph.D., Professor of Psychology (Chairman of the Department).

FRANKLIN S. FEARING, Ph.D., Professor of Psychology.

KATE GORDON, Ph.D., Professor of Psychology.

ROY M. DORCUS, Ph.D., Associate Professor of Psychology.

GRACE M. FERNALD, Ph.D., Associate Professor of Psychology.

ELLEN B. SULLIVAN, Ph.D., Associate Professor of Psychology.

¹FRANK C. DAVIS, Ph.D., Assistant Professor of Psychology.

S. CAROLYN FISHER, Ph.D., Assistant Professor of Psychology.

JOSEPH A. GENDERELLI, Ph.D., Assistant Professor of Psychology.

HOWARD C. GILHOUSEN, Ph.D., Assistant Professor of Psychology.

PERINA PIZIALI, M.A., Associate in Clinical Psychology and Associate in Italian.

EVELYN GENTRY, Ph.D., Research Associate in Psychology.

Letters and Science List.—All undergraduate courses in psychology and anthropology are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Required: courses 21 and 22; and a coherent group of courses totaling sixteen or more units, chosen with regard to the student's proposed direction of major work in psychology and the ultimate field of application. The list of approvable groups may be obtained from the adviser or from the chairman of the department.

The Major.—Course 106A or 107A, and fifteen additional units in upper division psychology; the remaining six units may be in upper division courses in psychology, or, subject to the approval of the department, in related courses in other departments.

Requirements for the master's degree.—The department follows Plan II. (see page 105). The list of topics and alternatives for the Comprehensive Examination may be obtained at the department office.

Requirements for the doctor's degree.—Permission to proceed to the written part of the qualifying examinations will be based on: (a) fulfillment of the general university requirements; (b) completion of specified upper division courses in addition to the undergraduate major; (c) departmental approval of the applicant's program, and of his probable qualifications for the making of a competent psychologist; and (d) consideration of the probability of the applicant's securing employment in his chosen field. The department will endorse petitions for candidacy, and request appointment of doctoral committees, only for applicants who have passed with credit the written examinations. Detailed statements of the requirements may be obtained from the chairman of the department.

Laboratory fees.—Courses 106A–106B, 107A–107B, 150B, \$3 a semester.

¹ In residence first semester only, 1940–41.

LOWER DIVISION COURSES

21. Introductory Psychology. (3) I, II.

Mr. Gilhousen in charge

Consideration of facts and principles pertaining to the topics of perception, imagination, thought, feeling and emotion, leading to the problems of experimental psychology, and the topics of intelligence and personality.

22. Elementary Physiological Psychology. (3) I, II.

Mr. Fearing in charge

Prerequisite: course 21 or course 1A taken in previous years.

Study of the integrative relations of psychological processes to nervous, muscular and glandular features of the response mechanism; including the structure and functions of the sense organs.

23. Personal Applications of Psychology. (3) I, II.

Mr. Dorcus, Mr. Dunlap

Prerequisite: course 21 or course 1A taken in previous years.

Orientation in the practical use of psychological principles in problems and circumstances encountered in college and later life.

UPPER DIVISION COURSES

Courses 21 and 22 are normally prerequisite to all upper division courses. Exceptions to the requirement are made only for courses for which the exceptions are specifically stated.

101. Principles of Psychology. (3) I, II.

Mr. Dunlap

Open to upper division students who do not have credit for courses 21 and 22. May be offered in substitution for courses 21 and 22 as the prerequisite to further upper division courses.

A critical discussion of the basic topics in psychology.

Elementary details, including essential information concerning nervous, muscular and glandular mechanisms will be covered by examinations based on readings.

106A-106B. Experimental Psychology. (3-3) Yr.

Mr. Dorcus

Lectures and demonstration, two hours; laboratory, two hours; assigned readings. Fee, \$3 a semester.

Methods, techniques, and typical results in experimental research in psychology.

107A. Mental Measurements. (3) I.

Miss Sullivan

Prerequisite: course 23 may be accepted in place of course 22. Fee, \$3.

A study of the construction, techniques of application, and interpretation of tests and scales. Practice in statistical procedures applicable to data derived from tests.

107B. Mental Measurements. (3) II.

Miss Sullivan

Prerequisite: course 107A. Fee, \$3.

Continuation of the study of principles of measurement, with practice in the construction, administration, and scoring of standardized tests and scales, and their diagnostic interpretation.

- 108. Physiological Psychology. (3) I.** Mr. Fearing
Integrative activities, consciousness, intelligent behavior, receptor and effector processes in relation to neuromuscular structure and function. Facts, problems and methods.
If not to be counted towards the major in psychology, this course may be substituted for course 22 as prerequisite to further upper division courses.
- 110. Educational Psychology. (3) I, II.** Mr. Gengerelli
Adolescence, maturation, habit formation, formal and informal training.
- 112. Child Psychology. (3) I, II.** Miss Fernald
The psychology of the infant and child, with special reference to mental development.
- 120. History of Psychology, Ancient Period. (3) I.** Mr. Dunlap
Psychological concepts from Homer to the Alexandrian period, outlined in relation to their cultural settings and their influence on modern psychology.
- *124. History of Psychology, Early Modern Period. (2) II.** Mr. Fearing
The development of psychological theories from Descartes to Helmholtz.
- 125. History of Psychology, Second Modern Period. (2) I.** Mr. Gengerelli
Psychological theories and research from Wundt to the end of the nineteenth century.
- 126. Contemporary Psychology. (2) I.** Mr. Gilhousen
The variant tendencies in current psychology, including critical examination of the more important so-called "schools" of psychology.
- 127. English Psychology from Hobbes to Bain. (2) II.** Miss Gordon
- *134. Sensation and Perception. (2) I.** Miss Fisher
Intensive study of sense perception, with reference to the structure and functions of sense mechanisms, and experimental findings.
- 135. Imagination and Thought. (2) II.** Miss Gordon
Imagination, memory, anticipatory and constructive thinking.
- 136. Motor Patterns and Motivation. (2) II.** Mr. Gilhousen
Theories and experimentally determined facts concerning drives, needs, preferences, and desires.
- 137A-137B. Human Learning. (2-2) Yr.** Mr. Davis, ———
A study of experimental methods and results, with consideration of leading theories.
- 138. Feeling and Emotion. (3) II.** Mr. Gengerelli
The nature and basis of the affective factor in life, with application to problems of personal and social adjustment and development.
- 145A-145B. Social Psychology, General Course. (2-2) Yr.** Miss Fisher
- 147. The Psychological Method in the Social Sciences. (3) II.** Mr. Fearing
Psychological factors in major social problems, including social control, propaganda, group conflict, cultural determination, etc.
If this course is not to be counted towards the major in psychology, course 23 may be accepted as a substitute for the prerequisite of course 22.

* Not to be given, 1940-41; to be given in 1941-42.

- 150A. Animal Psychology. (3) I.** Mr. Gilhausen
Experimental methods and results in the study of the behavior of the lower animals.
- 150B. Experiments in Animal Psychology. (3) II.** Mr. Gilhausen
Prerequisite: course 150A. Fee, \$3.
Lecture, one hour; laboratory, six hours.
- 166A. Clinical Psychology of Infancy and Childhood. (2) I, II.**
Lectures and demonstrations. Miss Fernald
A study of the problems of the child, including discussion of physical and mental abnormalities and deficiencies.
- 166B. Clinical Psychology of Infancy and Childhood. (2) I, II.**
Lecture, one hour; clinical work, three hours. Miss Fernald
Prerequisite: courses 107A and 166A, or equivalent preparation approved by the instructor.
Special emphasis is placed on corrective and preventive methods.
- 168. Abnormal Psychology. (3) II.** Mr. Dorcus
Prerequisite: recommended: course 108, or Zoölogy 35 or 106. Students may be required, early in the semester, to demonstrate an acquaintance with the elementary facts of structure and function of the nervous system.
Disorders of sensation, perception, feeling, and thought; their nature, causation, effects on life, and amelioration.
- 175. Psychology of Religion. (3) II.** Mr. Dunlap
The place of religion in personal and social life and its historical development in Western cultures. Specific beliefs are considered only in relation to their psychological conditions and effects.
- 177. Psychology and Art. (3) I.**
Miss Gordon, Mr. Blanchard, Mr. Cox, Miss Deane,
Mr. Dunlap, Mr. Hungerland, Miss Wright
A symposium by members of different departments on the problems of the appreciation of the materials of art, and of standards and criteria applicable to the materials.
- 183. Advanced Psychometric Methods. (3) I.** Mr. Gengerelli
Prerequisite: course 107B and Mathematics 3B or 7.
The application of higher statistical methods to psychological data.
- 199. Special Problems in Psychology. (3) I, II.**
Mr. Gilhausen, Miss Gordon
Prerequisite: courses 106A, 107A, and six other units in upper division psychology. Specific permission to enroll is necessary.

GRADUATE COURSES

- 211A-211B. Comparative Psychology. (2-2) Yr.** Mr. Gilhausen
A comparative study of experimental results on man and the lower animals.
- 215A-215B. Commercial and Industrial Psychology. (2-2) Yr.** Mr. Dorcus
- *251A-251B. Seminar in Clinical Psychology. (3-3) Yr.** Miss Fernald

* Not to be given, 1940-41; to be given in 1941-42.

- 252A-252B. Seminar in Mental Measurements. (3-3) Yr. Miss Sullivan
- *253A-253B. Seminar in Physiological Psychology. (3-3) Yr. Mr. Fearing
- 255A-255B. Seminar in Social Psychology. (3-3) Yr. Mr. Dunlap
- 256A-256B. Seminar in Aesthetics. (3-3) Yr. Mr. Fearing, Miss Gordon
- *258A-258B. Seminar in Abnormal Psychology. (3-3) Yr.
Mr. Dunlap, Mr. Doreus
- 278A-278B. Research in Psychology. (3-6; 3-6) Yr.
Mr. Fearing in charge

* Not to be given, 1940-41; to be given in 1941-42.

SPANISH

CÉSAR BARJA, Doctor en Derecho, Professor of Spanish.

LAURENCE DEANE BAILIFF, Ph.D., Associate Professor of Spanish (Chairman of the Department).

MANUEL PEDRO GONZÁLEZ, Ph.D., Associate Professor of Spanish.

ERNEST H. TEMPLIN, Ph.D., Associate Professor of Spanish.

MARION ALBERT ZEITLIN, Ph.D., Associate Professor of Spanish.

HERMENEGILDO CORBATÓ, Ph.D., Assistant Professor of Spanish.

ANNA KRAUSE, Ph.D., Assistant Professor of Spanish.

JOHN A. CROW, Ph.D., Instructor in Spanish.

MARIA L. DE LOWTHER, M.A., Associate in Spanish.

FRANCISCO MONTAU, A.B., Associate in Spanish.

SYLVIA N. RYAN, M.A., Associate in Spanish.

Letters and Science List.—All undergraduate courses in Spanish except 10 are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—(1) Courses 1, 2, 3A, 3B, and 20 or 25A–25B or the equivalent, to be tested by examination. (2) Students who wish to make Spanish their major subject must have maintained at least an average grade of C in the college courses in Spanish taken prior to obtaining the Junior Certificate. (3) A minimum of two years of high school Latin, French, German, or Italian, or Latin A and B, or English 36A–36B, or History 8A–8B. This requirement must be completed before entering upon the senior year. (4) Only students who pronounce Spanish correctly and read it fluently will be admitted to upper division courses. Students transferring from other institutions may be tested by oral examinations. (5) English 1A–1B.

NOTE.—Students who have not completed course 20 or 25A–25B with grade of B or A in the lower division must take 101A–101B.

The Major.—Required: twenty-four units of upper division courses, including 102A–102B and 116A–116B. The remaining units may include not more than four units of upper division work in French or Latin literature, or may be completed from courses 101, 104, 108, 109, 110, 114, 115, 124, 134, and Portuguese 101B. Students who desire to satisfy the major requirement specializing in the Spanish-American field may do so by completing courses 102A–102B, 104A–104B, 114, 116A–116B, 124, and 134.

Students who fail to maintain at least an average grade of C in the Spanish courses taken in the upper division will, upon approval of the Dean of the College of Letters and Science, be excluded from the major in Spanish.

The department recommends as a supplementary choice among the free electives: (1) history of the country or countries most intimately connected with the major; (2) additional study in Latin and English literature; (3) French, German, Greek, and Italian language and literature; (4) the history of philosophy.

Two years of high school Latin, or the equivalent, are prerequisite to candidacy for the master's degree in Spanish.

LOWER DIVISION COURSES

The prerequisites for the various lower division courses are listed under these courses. Students whose high school record seems to warrant it may by examination establish their right to take a more advanced course upon recommendation of the instructor.

1. **Elementary Spanish.** (5) I, II. Miss Ryan in charge
This course corresponds to the first two years of high school Spanish.
- 1A. **Elementary Spanish.** (3) I, II. _____
This course corresponds to the first year of high school Spanish. Not open to majors in Spanish.
- 1B. **Elementary Spanish.** (3) I, II. _____
Prerequisite: one year of high school Spanish or Spanish 1A. Not open for credit to students who have had Spanish 1 or S1 in a summer session.
2. **Elementary Spanish.** (5) I, II. Miss Ryan in charge
Prerequisite: course 1 or two years of high school Spanish or Spanish S1 in a summer session with satisfactory grade.
3. **Intermediate Spanish.** (5) I, II. Miss Ryan
Prerequisite: course 2 or three years of high school Spanish.
- 3A. **Intermediate Spanish.** (3) I, II. Miss Ryan in charge
Prerequisite: course 2 or three years of high school Spanish.
- 3B. **Intermediate Spanish.** (3) I, II. Miss Ryan in charge
Prerequisite: course 3A or four years of high school Spanish.
10. **Commercial Spanish.** (3) I, II. Mr. González
Prerequisite: course 3A or four years of high school Spanish. Required of all majors in business administration who elect Spanish to fulfill their language requirement.
20. **Grammar Review.** (5) I, II. Miss Ryan
Prerequisite: same as for course 25A-25B.
- 25A-25B. **Advanced Spanish.** (3) Yr. Miss Krause, Mrs. Lowther
For lower division students who have had course 3B or the equivalent. Designed especially for freshmen and sophomores who propose to make Spanish their major subject.

UPPER DIVISION COURSES

Prerequisite: sixteen units of lower division Spanish or the equivalent (except for course 140A-140B).

Major students who enter the upper division without course 25A-25B or 20 must take 101A-101B.

Junior Courses: Courses 101A-101B and 102A-102B.

Junior and Senior Courses: Course 104A-104B, 108A-108B, 109A-109B, 114, 124, and 134.

Restricted Senior Courses: Course 110A-110B, 115A-115B, 116A-116B.

Unrestricted Course: Course 140A-140B.

- 101A-101B. Oral and Written Composition. (3-3) Yr.
Mr. Corbató, Miss Krause, Mr. Templin
- 102A-102B. Survey of Spanish Literature to 1900. (3-3) Yr. Mr. Zeitlin
Required of major students in Spanish.
- 104A-104B. Survey of Spanish-American Literature. (3-3) Yr. Mr. Crow
Lectures and reading.
A study of the principal authors of Spanish America.
- 108A-108B. Spanish Literature from 1850-1892. (2-2) Yr. Mr. Barja
A study of Spanish Realism in the second half of the nineteenth century.
- 109A-109B. Spanish Literature from 1700-1850. (2-2) Yr. Mr. Corbató
A study of the Neo-classic and Romantic movements.
- 110A-110B. Contemporary Literature. (2-2) Yr. Mr. Templin
Reading and discussion of contemporary writers.
114. Mexican Literature. (3) I. Mr. González
- 115A-115B. Readings in Classical Literature. (2-2) Yr. Mr. Zeitlin
Students planning to take graduate work in Spanish are expected to take this course or offer an equivalent.
- 116A-116B. Advanced Composition. (3-3) Yr. Mr. Bailiff
Required of Spanish majors.
- *124. Argentine Literature. (3) II. Mr. González
134. The Argentine Novel. (3) II. Mr. González
- 140A-140B. Spanish Civilization. (2-2) Yr. Mr. Barja
Prerequisite: junior standing.
A study of the growth and development of Spanish culture in the various fields. Lectures are in English, reading in Spanish or English.

PROFESSIONAL COURSE IN METHOD

370. The Teaching of Spanish. (3) I, II. Mrs. Lowther
Required of all candidates for the general secondary credential whose major subject is Spanish. To be taken concurrently with Education 370.

GRADUATE COURSES†

201. Studies in Lyric Poetry. (2) I. Mr. Bailiff
204. The Gaucho Epic. (2) II. Mr. González
Lectures, outside reading, reports, and intensive reading in class.
- 205A-205B. Prose Masterpieces of the Sixteenth and Seventeenth Centuries. (2-2) Yr. Mr. Barja

* Not to be given, 1940-41.

† All candidates for the degree of Master of Arts must offer at least two years of high school Latin, or the equivalent.

- 209A-209B. **The Drama of the Golden Age.** (2-2) Yr. Mr. Templin
 210A-210B. **Contemporary Literature.** (2-2) Yr. Mr. Barja
 212A-212B. **Historical Grammar and Old Spanish Readings.** (2-2) Yr.
 Mr. Zeitlin
 224. **The Contemporary Mexican Novel.** (2) I. Mr. González
 *230. **Ballads.** (2) II. Mr. Templin
 *234. **The Modernista Movement in Spanish America.** (2) II. Mr. González
 *245A-245B. **Realism and Naturalism in the Nineteenth Century.** (2-2) Yr.
 Mr. Barja

PORTUGUESE

- 101A-101B. **Grammar, Composition, and Reading of Texts.** (3-3) Yr.
 Mr. Zeitlin

RELATED COURSES (See page 166)

Romance Languages and Literatures

203. **Old Provençal: Reading of Texts.** (2) I. Mr. Templin
 *235. **Romance Versification.** (2) I. Mr. Bailiff
 252. **Methodology of Romance Philology: Seminar.** (2) II. Mr. Brush

* Not to be given, 1940-41.

SUBJECT A: ENGLISH COMPOSITION

CARL SAWYER DOWNES, Ph.D., Assistant Professor of English, Chairman,
Committee on Subject A.

JAMES K. LOWERS, M.A., Secretary of the Committee on Subject A.

VIVIAN T. FURMAN, M.A., Associate in Subject A.

¹MARY-ELIZABETH C. KIBBEY, M.A., Associate in Subject A.

Subject A. No credit. I, II.

The Staff

Fee, \$10.

Three hours weekly for one semester. Although this course yields no credit, it displaces two units on the student's program. Every student who does not pass the examination in Subject A is required to take, in the semester immediately following this failure, the course in Subject A. Sections are limited to thirty students. For further details, see page 38.

Training in correct writing, including drill in sentence and paragraph construction, diction, punctuation, grammar, and spelling. Weekly compositions and written tests on the text.

¹ In residence first semester only, 1940-41.

TRAINING DEPARTMENT

JESSE A. BOND, Ed.D., Associate Professor of Education and Director of Training.

ETHEL I. SALISBURY, M.A., Associate Professor of Elementary Education and Supervisor of Training.

CORINNE A. SEEDS, M.A., Assistant Professor of Elementary Education and Principal of the University Elementary School.

HELEN CHRISTIANSON, Ph.D., Supervisor of Nursery School Training and Lecturer in Education.

DIANA W. ANDERSON, M.A., Supervisor of Training, Physical Education.

HELEN CHUTE DILL, M.A., Supervisor of Training, Music.

HELEN B. KELLER, Ed.B., Supervisor of Training, Elementary.

LAVERNA L. LOSSING, M.A., Supervisor of Training, Music.

LULU M. STEDMAN, Ed.B., Supervisor of Special Education.

NATALIE WHITE, M.A., Supervisor of Training, Art.

MARY H. HELBLING, M.A., School Counselor.

GRETRUDE C. MALONEY, M.A., Training Teacher, Sixth Grade.

HELEN F. BOUTON, M.A., Training Teacher, Fifth Grade.

BESSIE HOYT PERSELS, M.A., Training Teacher, Fourth Grade.

LOLA J. JAUDIEN, B.S., Training Teacher, Third Grade.

HELEN SUE READ, B.S., Training Teacher, Second Grade.

CLAYTON BURROW, M.S., Training Teacher, First Grade.

JANE BEENHARDT STEYKER, M.A., Training Teacher, Kindergarten.

YETTA STROMBERG IRWIN, Ed.B., Assistant Training Teacher, Kindergarten.

BLANCHE LUDLUM, M.A., Assistant Training Teacher, Nursery School.

ELEANOR STRAND, Ed.B., Assistant Training Teacher, Nursery School.

PHOEBE JAMES, Assistant in the University Elementary School.

Departmental Supervisors

ROBERT S. HILPERT, M.A., Associate Professor of Art Education.

CLARA BARTRAM HUMPHREYS, M.A., Associate in Fine Arts.

EVA M. ALLEN, Associate in Commercial Practice.

ESTELLA B. PLOUGH, Associate in Commercial Practice.

LEILA M. DOMAN, Ph.D., Instructor in Home Economics.

FOSS R. BROCKWAY, Ed.B., Associate in Mechanic Arts.

HAZEL J. CUBBERLEY, M.A., Associate Supervisor of Physical Education for Women.

PAUL FRAMPTON, M.A., Associate Supervisor of Physical Education for Men.

City Training Schools

Supervised teaching is provided for in (1) the University Elementary School, comprising a nursery school, kindergarten, and the elementary grades; (2) Sawtelle Boulevard Elementary School of Los Angeles City; (3) Fairburn Avenue Elementary School; (4) University High School and Emerson

Junior High School of Los Angeles City; (5) other high schools of Los Angeles and Santa Monica, as requirements demand.

The work is organized and administered by the Director of the Training Department and a corps of supervisors and training teachers, chosen in every case by the University authorities.

SAWTELLE BOULEVARD ELEMENTARY TRAINING SCHOOL

NORA STERRY, M.A., Principal.

HELEN B. KELLER, Ed.B., Supervisor of Training.

The staff consists of twenty to twenty-five carefully selected training teachers from the Los Angeles city school department. The personnel varies from year to year.

FAIRBURN AVENUE ELEMENTARY DEMONSTRATION SCHOOL

MARY LINDSEY, M.A., Principal.

ETHEL I. SALISBURY, M.A., Supervisor of Training.

A staff of demonstration teachers, varying in personnel from year to year, is chosen from the Los Angeles system to carry on work open for observation to university students, public school teachers and administrators.

Demonstration and Training Teachers

The staff of these schools consists of from twenty-five to thirty city school teachers. They are selected on merit by University and city school authorities, working coöperatively.

The frequent changes in staff due to promotions to principalships and supervisory positions make it impossible to publish here an accurate list of those who are to serve during the next year.

JUNIOR AND SENIOR HIGH SCHOOLS

RALPH D. WADSWORTH, M.A., Principal, University High School.

HELEN M. DARSIE, M.A., Vice-Principal, University High School.

RAYMOND J. CASEY, M.A., Vice-Principal, University High School.

PAUL E. GUSTAFSON, M.A., Principal, Emerson Junior High School.

CARRIE M. BROADED, M.A., Vice-Principal, Emerson Junior High School.

CRAWFORD E. PEEK, M.A., Vice-Principal, Emerson Junior High School.

LUZERNE W. CRANDALL, M.A., Supervisor of Training, Secondary.

ATTILIO BISSIRI, M.A., Supervisor of Training, Secondary.

CECILIA R. IRVINE, M.A., Supervisor of Training, Secondary.

DOROTHY C. MERIGOLD, Ph.D., Supervisor of Training, Secondary.

MARYELLEN LOMBARDI, Ph.D., Counselor, University High School.

HILDUR C. OSTERBERG, M.A., Counselor, Emerson Junior High School.

The rest of the secondary school staff consists of about one hundred public school teachers carefully chosen for their ability as teachers and as supervisors by the University supervisory staff and approved for such service by the public school authorities. Each ordinarily assumes responsibility for the training of not more than one to three student teachers at any one time. The personnel varies from semester to semester as the needs of the University require.

Courses in Supervised Teaching

Courses in teaching methods in special subjects will be found listed in the 300-series, professional courses, in the offerings of the various departments. General courses and courses in supervised teaching are listed under Education (see page 157). The ANNOUNCEMENT OF THE SCHOOL OF EDUCATION, LOS ANGELES, should also be consulted.

ZOÖLOGY

BENNET M. ALLEN, Ph.D., Professor of Zoölogy.

ALBERT W. BELLAMY, Ph.D., Professor of Zoölogy (Chairman of the Department).

LOYE HOLMES MILLER, Ph.D., Professor of Biology.

GORDON H. BALL, Ph.D., Associate Professor of Zoölogy.

RAYMOND B. COWLES, Ph.D., Associate Professor of Zoölogy.

JOHANNES HOLTGRETER, Ph.D., Visiting Associate Professor of Zoölogy.

SARAH ROGERS ATSATT, Ph.D., Assistant Professor of Zoölogy.

EDGAR L. LAZIER, Ph.D., Assistant Professor of Zoölogy.

EMILY H. BARTLETT, Ph.D., Instructor in Zoölogy.

BORIS KRICHESKY, Ph.D., Instructor in Zoölogy.

A. MANDEL SCHECHTMAN, Ph.D., Instructor in Zoölogy.

FRANCIS B. SUMNER, Ph.D., Professor of Biology, Scripps Institution of Oceanography.

MARTIN W. JOHNSON, Ph.D., Assistant Professor of Marine Biology, Scripps Institution of Oceanography.

HERBERT S. JENNINGS, Ph.D., Research Associate in Zoölogy.

Letters and Science List.—All undergraduate courses in this department are included in the Letters and Science List of Courses. For regulations governing this list, see page 67.

Preparation for the Major.—Zoölogy 1A-1B, and one year of college chemistry, preferably Chemistry 1A-1B. French and German are recommended.

The Major.—Eighteen units of upper division work in zoölogy and six units of upper division work chosen from zoölogy or from approved *related* courses in anthropology, bacteriology, botany, chemistry, entomology, home economics, mathematics, paleontology, physics, or psychology. Of the 18 upper division units in zoölogy at least 4 units must be taken in each of the three following groups of courses:*

Group 1: Courses 101, 103, 111, 118, 130, 131.

Group 2: Courses 104, 105, 106, 107, 107C, 111C.

Group 3: Courses 112, 113, 113C, 115, 115C.

Curriculum for Medical Technicians.—For details, see the ANNOUNCEMENT OF THE COLLEGE OF LETTERS AND SCIENCE, LOS ANGELES.

Laboratory Fees.—Physiology 1, 2, \$3; Zoölogy 1A, 1B, \$3; 1C, \$2; 4, \$5; 35, 105, 131, 133, \$3; 106, \$7.50; 107C, \$5; 111C, \$3; 112, \$2; 115C, \$2.50; 199A, 199B, \$3.

ZOÖLOGY

LOWER DIVISION COURSES

1A. General Zoölogy. (5) I.

Mr. Ball, Mr. Krichesky

Lectures, two hours; quiz, one hour; laboratory, six hours; one required field trip. Fee, \$3.

An introduction to the facts and principles of animal biology.

* In residence second semester only, 1940-41.

* Effective for all students graduating with a major in Zoölogy after August, 1942.

- 1B. General Zoölogy. (5) II.** Mr. Lazier, Mr. Krichesky
Lectures, two hours; quiz, one hour; laboratory, six hours. Fee, \$3.
Prerequisite: course 1A.
An introduction to vertebrate morphology, physiology, and embryology.
- 1C. Elementary Embryology. (2) II.** Mr. Lazier
Fee, \$2.
Not open to students who have taken Zoölogy 1B at this University.
Designed for students who transfer to this University from other institutions without having had the embryological work covered in Zoölogy 1B. This work (or its equivalent in Zoölogy 1B) is required for admission to medical school.
- 4. Microscopical Technique. (2) I, II.** Miss Bartlett
Laboratory, six hours; assigned readings.
Prerequisite: high school chemistry and course 1A-1B, or the consent of the instructor. Fee, \$5.
The preparation of tissues for microscopical examination.
- 35. General Human Anatomy. (3) II.** Miss Atsatt
Lecture, two hours; laboratory, three hours. Fee, \$3.
Prerequisite: sophomore standing; course 1A or Physiology 1.

UPPER DIVISION COURSES

- 101. Physiological Biology. (2) I.** Mr. Krichesky
Prerequisite: course 1A or Botany 1A, and Chemistry 8 and 9, or the equivalent.
Lectures, readings, and demonstrations of certain physicochemical processes and the principles of living matter.
- 103. Experimental Zoölogy. (2) I.** Mr. Schechtman
Prerequisite: course 1A-1B.
Lectures and reports on articles in scientific journals.
Factors governing cell-differentiation; a survey of the results of experimental embryology, transplantation, regeneration, and tissue culture.
- 104. Vertebrate Paleontology. (3) I.** Mr. Miller
Lecture, one hour; laboratory, six hours.
Prerequisite: course 1A-1B.
A study of the structure and the evolution of the mammals of the western hemisphere.
- 105. Mammalian Embryology. (3) I.** Mr. Allen
Lecture, one hour; laboratory, six hours.
Prerequisite: course 1A and either 1B or 35. Fee, \$3.
Emphasis on man, rat, and pig.
- 106. Comparative Anatomy of the Vertebrates. (4) I.** Mr. Lazier
Lecture, two hours; laboratory, six hours.
Prerequisite: course 1A-1B (including embryology). Fee, \$7.50.
A study of the structural relationships of the vertebrates. Dissection of the elasmobranch, amphibian, and mammal.

107. Cytology. (1) I.

Prerequisite: course 1A.

The structure and activities of the cell, especially in development, in sex determination, and in heredity with a general survey of histology.

107C. Cytology Laboratory. (1) I.

Prerequisite or concurrent: course 107. Fee, \$5.

111. Parasitology. (2) II.

Mr. Ball

Prerequisite: course 1A.

General discussion of the biological aspects of parasitism and of the animal parasites of man and the domestic animals.

111C. Parasitology Laboratory. (2) II.

Mr. Ball

Prerequisite or concurrent: course 111. Fee, \$3.

112. Advanced Invertebrate Zoölogy. (4) I.

Mr. Johnson

Lectures, two hours; laboratory and field, six hours.

Prerequisite: course 1A. Course 1B is recommended. Fee, \$2.

Morphology, habits, habitats, and life histories of both marine and fresh water invertebrates, with especial reference to local faunas.

113. Vertebrate Zoölogy. (2) II.

Mr. Miller

Prerequisite: course 1A-1B.

Emphasis upon the habits, distribution, and ecology of the avifauna of California.

113C. Vertebrate Zoölogy Laboratory. (2) II.

Mr. Miller

Prerequisite or concurrent: course 113.

115. Vertebrate Zoölogy. (2) I.

Mr. Cowles

Prerequisite: course 1A-1B.

Ecology, distribution, and habits of the cold-blooded vertebrates.

115C. Vertebrate Zoölogy Laboratory. (2) II.

Mr. Cowles

Prerequisite: course 115.

Fee, \$2.50.

Ecology and taxonomy of the cold-blooded vertebrates.

117. Zoölogical Theories and Concepts. (2) II.

Mr. Bellamy

Prerequisite: six units of upper division zoölogy.

Readings, discussions, and lectures on the history and development of basic concepts and theories concerning organisms.

118. Endocrinology. (2) I.

Mr. Allen

Prerequisite: course 1A.

Lectures and reports on articles in scientific journals.

130. Genetics. (2) I.

Mr. Bellamy

Lectures and discussions, two hours.

Prerequisite: course 1B or Botany 1B or the equivalent.

The student is given an opportunity to become familiar with the principles of heredity and research methods in genetics.

- 131. Genetics Laboratory. (2) I.** Mr. Bellamy
 Laboratory, six hours.
 Prerequisite or concurrent: course 130. Fee, \$3.
- 132. Advanced Genetics. (2) II.** Mr. Bellamy
 Lectures, two hours; seminar, one hour.
 Prerequisite: course 131.
 A continuation of course 130 with special reference to experimental evolution.
- 133. Advanced Genetics Laboratory. (2) II.** Mr. Bellamy
 Laboratory, six hours.
 Prerequisite or concurrent: course 132. Fee, \$3.
- 199A-199B. Problems in Zoölogy. (2-2) Yr.** Mr. Allen and the Staff
 Prerequisite: course 1A-1B and junior standing, with such special preparation as the problem may demand. Fee, \$3 a semester.

GRADUATE COURSES

- 251A-251B. Seminar in Zoölogy. (1-2; 1-2) Yr.** The Staff
- 251C-251D. Second Seminar in Zoölogy. (1-1) Yr.** The Staff
- 290A-290B. Research in Zoölogy. (2-6; 2-6) Yr.** The Staff

BIOLOGY

LOWER DIVISION COURSES

- 1. Fundamentals of Biology. (3) I, II.** Mr. Cowles, Miss Scott
 Students who have taken or are taking Botany 1A or Zoölogy 1A will not receive credit for Biology 1.
 Important principles of biology illustrated by studies of structure and activities of living organisms, both plants and animals. One field trip is required.
- 12. General Biology. (3) II.** Mr. Cowles, Mr. Miller
 Lectures, three hours; demonstration, one hour; one required field trip in the semester.
 Prerequisite: Biology 1, Botany 1A or Zoölogy 1A.
 A course in systematic and ecologic biology with emphasis on local species.

PALEONTOLOGY†

LOWER DIVISION COURSE

- 1. General Paleontology. (2) I.** Mr. Miller
 Lectures, quizzes, and two required Saturdays in the field.
 A discussion of the general principles of paleontology, the influences that surrounded the ancient life of the earth, and some of the ways in which animals respond to such influences.

† Courses in Invertebrate Paleontology are offered by the Department of Geology (see page 179).

PHYSIOLOGY:

LOWER DIVISION COURSES

1. General Human Physiology. (3) I.

Miss Atsatt

Lectures, two hours; laboratory, three hours.

Prerequisite: Chemistry 2A-2B or Chemistry 1A; and Zoölogy 1A or Biology 1. Fee, \$3.

The processes taking place in the human body in normal life.

2. Human Physiology. (2) I.

Miss Atsatt

Lecture, one hour; laboratory, three hours.

Prerequisite: Physiology 1 or Zoölogy 1B; or may be taken concurrently with Physiology 1. Fee, \$3.

‡ The University of California at Los Angeles does not offer a major in physiology. Students wishing to satisfy the requirements for a major in physiology are referred to the *General Catalogue* of the Departments at Berkeley.

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