UNIVERSITY OF HAWAII
BULLETIN

Volume XXVII • Number 3 • June 1948

GENERAL CATALOGUE
1948-49
UNIVERSITY CALENDAR

1948

Sept. 20, Monday  Freshman Orientation Period
Sept. 21, Tuesday  Registration of juniors and seniors
Sept. 22, Wednesday  Registration of sophomores
Sept. 23, Thursday  Registration of freshmen
Sept. 24, Friday  Registration of graduate and unclassified students and auditors
Sept. 25, Saturday  Instruction begins
Sept. 27, Monday  Primary Election Day (holiday)
Oct.  2, Saturday  Last day of registration for new courses
Oct.  2, Saturday  Last day of withdrawal from courses without penalty
Nov.  2, Monday  General Election Day (holiday)
Nov. 11, Thursday  Armistice Day (holiday)
Nov. 24, Wednesday  Last day for the removal of "Incompletes"
Nov. 25, Thursday through Thanksgiving recess
Nov. 27, Saturday
Dec. 18, Saturday  Last day of instruction before Christmas recess

1949

Jan.  3, Monday  Instruction resumes
Jan. 22, Saturday  Last day of instruction, first semester
Jan. 24, Monday  Final examinations begin
Jan. 31, Monday  Holiday following Franklin Roosevelt's Birthday
Feb.  2, Wednesday  First semester ends
Feb.  8, Tuesday  Registration of juniors and seniors
Feb.  9, Wednesday  Registration of sophomores
Feb. 10, Thursday  Registration of freshmen
Feb. 11, Friday  Registration of graduate and unclassified students and auditors
Feb. 12, Saturday  Lincoln's Birthday (holiday)
Feb. 14, Monday  Instruction begins
Feb. 22, Tuesday  Washington's Birthday (holiday)
Feb. 26, Saturday  Last day of registration for new courses
Mar. 19, Saturday  Last day of withdrawal from courses without penalty
Mar. 25, Friday  Charter Day
Apr. 14, Thursday  Last day for the removal of "Incompletes"
Apr. 15, Friday  Easter recess
Apr. 16, Saturday
May 28, Saturday  Last day of instruction, second semester
May 30, Monday  Memorial Day (holiday)
May 31, Tuesday  Final examinations begin
June  8, Wednesday  Second semester ends
June 14, Tuesday  Commencement
June 20, Monday  Registration for the summer session
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BOARD OF REGENTS

WILLIAM P. ALEXANDER
Manager, Grove Farm Company
Lihue, Kauai

1951

KATSUYUKI IZUMI
Physician and Surgeon
Waikuku, Maui

1949

FRED K. LAM
Physician and Surgeon
Honolulu

1951

W. HAROLD LOPER, EX OFFICIO
Superintendent, Department of Public Instruction
Honolulu

1951

J. FRANK MCLAUGHLIN
Judge, United States District Court
Honolulu

1951

J. SCOTT B. PRATT
Manager, Kohala Sugar Company
Hawi, Hawaii

1951

GREGG M. SINCLAIR, EX OFFICIO
President of the University
Honolulu

1949

PHILIP E. SPALDING
President, C. Brewer and Company
Honolulu

1949

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Philip E. Spalding

Vice-Chairman
J. Frank McLaughlin

Secretary
Paul S. Bachman
### FACULTY AND STAFF
AS OF JUNE, 1948

#### ADMINISTRATION

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<tr>
<td>GREGG M. SINCLAIR, M.A.</td>
<td>President of the University</td>
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<td>KARL C. LEEBRICK, Ph.D.</td>
<td>Vice-President and Veterans' Adviser</td>
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<td>PAUL S. BACHMAN, Ph.D.</td>
<td>Dean of the Faculties</td>
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<td>THAYNE M. LIVESAY, Ph.D.</td>
<td>Dean of the College of Arts and Sciences</td>
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<td>BENJAMIN O. WIST, Ph.D.</td>
<td>Dean of Teachers College</td>
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<td>JOSEPH F. KUNESH, C.E.</td>
<td>Dean of the College of Applied Science</td>
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<td>HAROLD A. WADSWORTH, B.S.</td>
<td>Dean of the College of Agriculture</td>
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<td>ANDREW W. LIND, Ph.D.</td>
<td>Dean of the Graduate Division</td>
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<td>BRUCE WHITE, Ph.D.</td>
<td>Dean of Student Personnel</td>
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<td>STANLEY D. PORTEUS, Sc.D.</td>
<td>Director of the Psychological and Psychopathic Clinic</td>
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<tr>
<td>JOHN H. BEAUMONT, Ph.D.</td>
<td>Director of the Hawaii Agricultural Experiment Station</td>
</tr>
<tr>
<td>HOWRY H. WARNER, B.S.</td>
<td>Director of the University Agricultural Extension Service</td>
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<td>KATHARINE N. HANDLEY, M.S.W.</td>
<td>Director of the School of Social Work</td>
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<td>ALBERT J. MCKINNEY, Ph.D.</td>
<td>Director of the University Extension Division</td>
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<td>JOSEPH M. SKORPEN, B.A.</td>
<td>Treasurer</td>
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<td>HELEN B. MACNEIL, M.A.</td>
<td>Registrar</td>
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<td>CARL G. STROVEN, Ph.D.</td>
<td>Librarian</td>
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<td>HAROLD M. BITNER, M.A.</td>
<td>Director of Admissions and of the Bureau of Testing and Guidance</td>
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<td>BARBARA M. CLARK, M.A.</td>
<td>Counselor for Women</td>
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<td>THOMAS NICKERSON, B.A.</td>
<td>University Publications Editor</td>
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#### INSTRUCTION

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<tr>
<td>TOM E. ABRUMS, M.A.</td>
<td>Instructor in English—B.A., Univ. of Colorado, 1932, M.A., 1937.</td>
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<td>JACOB ADLER, B.S.</td>
<td>Assistant Professor of Economics and Business—B.S., Univ. of Chicago, 1933.</td>
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<td>JULIA L. ADY, B.A.</td>
<td>Graduate Assistant in History—B.A., Drury College, 1946.</td>
</tr>
<tr>
<td>ARTHUR A. AKINA, M.S.</td>
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GENERAL INFORMATION

DESCRIPTION

The University of Hawaii lies at the mouth of Manoa Valley in Honolulu, on the island of Oahu. It is three miles from the business center of Honolulu and two miles from Waikiki Beach. Ten other tracts of land on the islands of Oahu, Maui, and Hawaii bring the University's landholdings to 400 acres.

Established by act of the Legislature of the Territory of Hawaii in 1907, the University bears the same relation to the Territory as the state universities to their states. Support of the University comes from appropriations of the Territorial Legislature and of the United States Congress, and from miscellaneous funds that include gifts and student fees. Although the University of Hawaii never received a grant of land such as that provided for similar colleges of the states under the original Morrill Act of 1862, it is a federal land-grant college and shares in benefits from the Second Morrill Act of 1890, the Nelson Amendment of 1907, and subsequent legislation.

HISTORY. The institution was known as the College of Agriculture and Mechanic Arts from 1907 to 1911, and the College of Hawaii from 1911 to 1920. The College opened September 14, 1908, with five students in regular courses and a faculty of twelve. Before the end of the year thirty-one students had enrolled in special courses. The College was temporarily located on the grounds now occupied by the Lincoln School in Honolulu; in 1912 the institution was moved to its present site. When the College of Arts and Sciences was added in 1920, the name was changed to the University of Hawaii.

In 1931 the Territorial Legislature united the Territorial Normal and Training School with the University School of Education to form Teachers College of the University and placed the property of the Normal School under the control of the Board of Regents of the University.

OPEN TO ALL. Instruction is available to all persons who are qualified, regardless of sex, racial ancestry, or nationality.

FULLY ACCREDITED. The University is fully accredited by the Association of American Universities. Its students may transfer to other American and to European and Oriental universities on the same basis as students of other American universities.

CONTROL OF THE UNIVERSITY. Government of the University resides in a Board of Regents appointed by the Governor of the Territory for individual terms of four years. The statutes and bylaws of the Board of Regents are published in a pamphlet available upon request.

DIVISIONS OF THE ACADEMIC YEAR. The University divides its academic year into two semesters of eighteen weeks each and a summer session of six weeks. The semester beginning in the autumn is known as the first semester, and that beginning in the winter is known as the second semester.

UNIVERSITY COLORS. The University of Hawaii colors are green and white.
COMMUNICATIONS TO THE UNIVERSITY. Letters of general inquiry from prospective students should be addressed to the Registrar.

The mailing address of the University is P. O. Box 18, Honolulu 10, Hawaii.

ADMINISTRATIVE ORGANIZATION

Since July 1, 1943, the University has operated under a new plan of organization, unanimously endorsed by the University Senate and adopted by the Board of Regents on February 23, 1943. Under this plan there are four colleges: The College of Arts and Sciences, the College of Applied Science, Teachers College, and the College of Agriculture, which includes the Agricultural Experiment Station and the Agricultural Extension Service. Graduate work is organized under the Graduate Division. The Office of Student Personnel co-ordinates the work of admissions, counseling, and registration. Other administrative units are the Psychological Clinic, the Library, the University Extension Division, and the Legislative Reference Bureau.

Under this plan departments are units of the University as a whole, rather than of colleges, and are responsible to the Dean of Faculties on matters of finance and personnel. Co-ordination of the departments with the colleges in instructional matters is obtained through a Council of Deans, of which the Dean of Faculties is chairman. The Summer Session and the University Extension Division are under the supervision of the Dean of Faculties and the Council of Deans.

The University Senate, composed of all faculty members of the rank of professor and associate professor and others designated by the Board of Regents, acts as an advisory body to the President on matters of instruction and related problems.

RELATED SERVICES

In addition to its instructional program, the University offers several other forms of public service.

THE PSYCHOLOGICAL AND PSYCHOPATHIC CLINIC. This Clinic is a territorial agency under the management of the University. It was established by act of the Legislature in 1921, with the dual purpose of psychological investigation and of individual clinical examinations. The act gives wide scope to the work of the Clinic, making its service in examination available to every institution and to all social and educational agencies in the Territory. Through traveling psychologists this work has been extended to the other islands. Research work carried on by the Clinic relates in large part to racial differences, a question of international significance. In its special field, lecture courses are offered by certain members of the Clinic staff.

LEGISLATIVE REFERENCE BUREAU. The 1943 Legislature created the Legislative Reference Bureau under University jurisdiction to help solve current legislative and governmental problems. The Bureau is situated on the campus; during sessions of the Legislature, an additional office is maintained in Iolani Palace. On request, it provides members of the Legislature, the Governor, and departments, institutions, and agencies of the Territory with information and reports concerning legislative problems that come before them.

HAWAII WAR RECORDS DEPOSITORY. A resolution of the 1943 Legislature stated, in part, that "it will be advisable, after the termination of the present war . . . to compile a history of Hawaii's part in such war"; it designated the University of Hawaii
as "the official depository of material, documents, photographs and other data relating to Hawaii's part in said war"; and it required the University to collect and preserve such materials. Under this mandate the University established the Hawaii War Records Depository, which operates under the general guidance of a faculty War Records Committee. There is an advisory committee appointed by the president of the Hawaiian Historical Society.

THE VOLCANO LABORATORY. On the island of Hawaii, the Laboratory is conducted in cooperation with the National Park Service and the Hawaiian Volcano Research Association, and offers research possibilities to both graduate students and investigators who wish to pursue their own studies in subjects pertaining to volcanology.

THE AQUARIUM. At Waikiki Beach the University operates the Aquarium as a place of education and entertainment for the benefit of local residents and visitors.

COOPERATING INSTITUTIONS

To add to the research facilities which it offers students and to expand its services to the Territory, the University has made cooperative agreements with several other institutions.

THE PINEAPPLE RESEARCH INSTITUTE OF HAWAII. This Institute, independently supported by the pineapple industry, is affiliated with the University. The administrative offices and research laboratories are in Institute buildings on and adjacent to the University campus. Field studies are carried on at Wahiawa, where the Institute maintains a 100-acre experimental farm.

BERNICE PAUAI BISHOP MUSEUM. The University and the Bishop Museum reciprocate in the use of libraries, laboratories, collections, and other facilities of research. Advanced students may use the Museum facilities when working under proper direction, subject to such regulations as may be deemed expedient by the director of the Museum.

INSTITUTE OF PACIFIC RELATIONS. The research library accumulated by the Honolulu Branch of the Institute of Pacific Relations, affording excellent facilities for the study of international affairs, constitutes a part of the University Library.

HONOLULU ACADEMY OF ARTS. This institution, built and endowed by Mrs. Charles M. Cooke, has made its fine collections of art objects available to the students and instructors of the University.

HAWAIIAN SUGAR PLANTERS' ASSOCIATION. In 1947 this association provided $100,000 for the erection of a building on the University campus to house the Agricultural Engineering Institute, where shop facilities are available for instructional and research purposes.

FRUIT FLY LABORATORY. The United States Bureau of Entomology maintains on the University campus a research laboratory and a corps of investigators for the study of fruit fly pests in Hawaii.

QUEEN'S HOSPITAL. The Queen's Hospital and the University cooperate in offering certain courses in nursing and medical technology.

THE HAWAII SCHOOL OF RELIGION. The Hawaii School of Religion, an independently supported institution managed by its own Board of Trustees, is affiliated with the University and its courses are accepted for credit. Members of its staff are approved by the University Board of Regents and given academic rank on the University faculty.
The principal buildings on the campus are Hawaii Hall, Gartley Hall, Dean Hall, the Library, the Social Science Building, Teachers College and its laboratory centers (the Elementary School, the High School, Castle Memorial Hall, and Auditorium), Farrington Hall, the Engineering Quadrangle, Gilmore Hall, the Home Economics Building, the Gymnasium, Hemenway Hall, and the Music Building. All of these except the Gymnasium, the Teachers College laboratory centers, and the Music Building are built of reinforced concrete.

Hawaii Hall is the administration building. The biological sciences are housed chiefly in Dean Hall. The physical sciences are centered in Gartley Hall. Farrington Hall, an auditorium with a backstage extension, is well equipped for work in dramatics. The engineering laboratories and classrooms are in the four buildings composing the Engineering Quadrangle. The Arthur L. Andrews (outdoor) Theater, whose backdrop consists of a tropical garden and the Koolau mountain range, is the setting for commencement and other University programs.

The Agricultural Engineering Institute, financed largely by the Hawaiian Sugar Planters' Association, provides facilities for instruction and research in farm and plantation machinery.

The Library contains 185,585 bound volumes and 389,574 unbound parts and pamphlets, exclusive of the Teachers College Elementary School Library, and serves as a depository for government publications. Extensive collections of Chinese and Japanese works and a growing collection of valuable books and periodicals about Hawaii make the University of Hawaii an excellent place to study international relations, especially those concerning the Pacific area. The Library includes local and mainland newspapers, and literary, technical, and scientific periodicals. These materials are available to all persons complying with library regulations.

Hemenway Hall is a general social center for students and faculty, and furnishes quarters for both student and alumni organizations. In it a bookstore and a cafeteria are maintained.

Residence accommodations on or near the campus include the Charles H. Atherton House and Veterans' Dormitories for men and Hale Laulima for women students.

A swimming pool, tennis courts, and locker buildings are located near Hemenway Hall. Wise Field, which is used for football and baseball practice and military drill, and Cooke Field, which is used for track sports, also afford facilities for physical education and sports.

The Honolulu Stadium, with a seating capacity of 22,000, is equipped for football, baseball, and other outdoor sports, and is regarded as an integral part of the University's plant resources for physical education and athletics. It is owned and managed by the Honolulu Stadium Corporation.

Other buildings connected with the University include the R.O.T.C. Buildings, Hawaii Annex (which houses the Psychological Clinic and the offices of the English Department), the Nutrition Laboratory, the United States Bureau of Entomology Building, and 33 temporary office and classroom buildings on the campus; the Marine Biological Laboratory at Waikiki Beach; and the Astronomical Observatory in Kaimuki.

A part of the campus is occupied by an experimental farm, which is devoted to solving problems of Hawaii's dairymen, poultrymen, and livestock raisers and which provides instructional facilities for students of agriculture.
The herbaria of the University and of the Bishop Museum, which are combined under the custodianship of the Museum, contain the most nearly complete collection of Hawaiian plants in existence, and include some species now extinct. The most valuable parts are the cotypes of Dr. W. Hillebrand's species and the types of many new species collected by later botanists.

CLASSIFICATION OF STUDENTS

Students in the University, other than auditors and those taking extension and correspondence courses, are classified as undergraduates and graduates.

Undergraduate students are designated as regular or unclassified.

Regular students are those who are pursuing organized programs of study and who comply with the established regulations which lead, usually after four years of work, to a bachelor's degree. Regular students ordinarily carry full-time programs (10 semester hours or more). Freshmen and sophomores are lower-division students; juniors and seniors, upper-division students.

Unclassified students are those who, although registered for credit, are not enrolled as candidates for degrees. They usually carry only part-time programs (fewer than 10 semester hours).

Graduate students (graduates of this University or of other institutions of approved standing) are subdivided into four groups: candidates for advanced degrees, candidates for five-year diplomas, candidates for certificates in social work, and noncandidates.

Advanced degree candidates are those who pass qualifying examinations and pursue programs of study leading to advanced degrees.

Five-year diploma candidates are persons taking graduate work in Teachers College.

Candidates for certificates in social work are persons taking graduate work in the School of Social Work.

Most of the other graduate students—who are not candidates for degrees or diplomas—are teachers seeking professional improvement by taking graduate courses. Some of them are following a program leading to the professional certificate awarded by the Department of Public Instruction.

Auditors are those who are permitted to attend certain courses as listeners, but who take no part in the class work and receive no credit.

ADMISSION

Candidates for admission must present satisfactory evidence of ability to do university work.

Those who wish to become regular or unclassified students and who have not previously earned credits in an institution of higher learning must apply to the Director of Admissions. A high school senior who plans to enter the University within a year should file his application during the final semester of his high school course. In any case, application should be filed at least one month before the opening of the semester in which enrollment is desired. Requests for application forms and questions about admission should be addressed to the Director of Admissions.

The application procedure for persons who have credits from other institutions of higher learning is described hereafter under "Admission to Advanced Standing."
ADMISSION OF REGULAR STUDENTS ENTERING THE UNIVERSITY FOR THE FIRST TIME. Admission to first-year standing in the University depends on a number of factors, including performance on college aptitude tests, quality of high school work, and various ratings by the preparatory school. A high rating in one factor alone will not insure admission; nor will poor performance on one measure alone exclude an applicant if other evidence indicates he might be successful. Ordinarily a student should average B or better in his high school work, although an applicant with a C average who scores above average on the college aptitude test may be admitted. The quality of work done during the last two years in secondary school receives special consideration.

College aptitude and English tests are given by the University in high schools of the Territory each spring. These tests are also given at the University several times during the summer. Applicants should communicate with the Director of Admissions for information as to dates. Modern language placement tests are given during the Freshman Orientation Period for students intending to enter advanced language courses.

Every applicant for admission as a regular student who has not previously earned credits in an institution of higher learning must take college aptitude and English examinations and must submit evidence that he has satisfactorily completed at least 15 units of work in a four-year high school or at least 12 units of work in a three-year senior high school. Increasing emphasis is being put upon the ability to use and understand English, both oral and written. While it is not the policy of the University to refuse admission to an otherwise promising candidate on the basis of poor English alone, an applicant whose high school record and aptitude scores are such as to raise a question regarding his ability to do satisfactory college work, and who, in addition, is poor in oral English will not be admitted.

The word unit as employed here to describe prerequisite preparatory work signifies the satisfactory completion of a course of study pursued for a full school year, with five recitations a week of not less than 45 minutes each, or the equivalent laboratory or shop exercises. For an acceptable distribution of the units required of entering students, see the table on page 36.

ADMISSION BY EXAMINATION. Candidates who cannot or do not care to satisfy the foregoing admission requirements may take examinations offered by the College Entrance Examination Board (431 West 117th Street, New York City) and submit statements from the Board covering certain subjects, or take the comprehensive examinations offered by the Board and submit a certificate covering the results of these examinations along with a complete record of work done in preparatory school.

Applicants whom the dean of the college concerned regards as of more than average ability may take entrance examinations offered by the University covering preparatory school subjects.

Veterans whose secondary school education was interrupted by the war may take entrance examinations covering preparatory school subjects. Successful performance on these tests and on the college aptitude test will admit veterans without reference to high school credits. Such veterans, however, must meet all special requirements, such as those in mathematics for admission to the engineering or premedical curriculums.

SPECIAL REQUIREMENTS FOR CERTAIN PROGRAMS. In addition to satisfying the requirements of the University as a whole, candidates for admission to certain programs of university work must meet special requirements. Each applicant should study the
### MINIMUM UNIT REQUIREMENTS FOR ADMISSION

<table>
<thead>
<tr>
<th>FROM A 4-YEAR HIGH SCHOOL</th>
<th>SUBJECT</th>
<th>FROM A 3-YEAR HIGH SCHOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>ENGLISH</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>ALGEBRA</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>ENGLISH—(in addition to the 3-unit minimum requirement in English)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>SCIENCES—Physical, biological, and social</td>
<td>(Not required if the student had ninth-grade general mathematics in intermediate, i.e., junior high, school.)</td>
</tr>
<tr>
<td></td>
<td>MATHEMATICS—(in addition to the 1-unit minimum requirement in mathematics)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>FOREIGN LANGUAGES—(Entrance credit in foreign language is not granted unless the total number of foreign language units offered includes at least 2 units in some one language.)</td>
<td>(If applicant offers ninth-grade mathematics, this requirement is 5 units.)</td>
</tr>
<tr>
<td>5</td>
<td>Any other subjects (except Physical Education and R.O.T.C. credited by the high school toward its diploma (no less than ½ nor more than 2 units in any one subject) provided that these subjects have been pursued in accordance with regular classroom procedure involving a reasonable amount of preparation in addition to the time spent in class.</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>. . . . . . . . Total . . . . . . . . . .</td>
<td>12</td>
</tr>
</tbody>
</table>

Conditions set by the college he intends to enter and of the program he intends to pursue in that college. Special attention is directed to the following requirements.

Students who expect to study mathematics in the University, or to take subjects for which college mathematics is a prerequisite, should have had plane geometry and two years of algebra.

Prospective engineering and prearchitecture students must have had two years of algebra, plane geometry, and trigonometry if they wish to complete the University program in four years. It is strongly recommended that they also have solid geometry, mechanical drawing, and physics.

Prospective students of medicine should have had two years of algebra, plane geometry, trigonometry, two years of a foreign language, two years of history, and three years of English.

Prospective students of agriculture should have had two years of algebra. Students entering with one year only will be required to complete the second year without credit by the end of the freshman year.
Every student entering as a freshman is expected to be on the campus during the Freshman Orientation Period, the dates of which are stated in the "University Calendar." This program is designed to give special help to incoming freshmen and to acquaint them with the University. Examinations, conferences with advisers, introductory lectures, and social events occupy the period.

ADMISSION TO ADVANCED STANDING. Students who transfer with sufficient credits from other accredited universities or colleges may be granted advanced standing. These students must present to the Registrar an official statement of the studies offered for admission at such institutions, of the studies pursued in college and the grade received in each, and of honorable dismissal. These transcripts become a permanent part of the University files. Credit toward graduation is given only in subjects in which grades of C or better are recorded. Candidates transferring with advanced standing are required to do a minimum of one year's work (30 semester hours) at the University of Hawaii if they wish to receive a bachelor's degree here.

Students transferring from other than accredited institutions, or from accredited institutions but with unacceptable records, follow the procedure of freshmen entering for the first time. Such students, after registration, may petition the dean of the college concerned for credit by examination in courses previously studied. Credit may be given when such examinations are passed successfully, provided the students are degree candidates at the University of Hawaii.

ADMISSION OF UNCLASSIFIED STUDENTS. Mature persons, ordinarily at least twenty-one years of age, who present satisfactory evidence of their ability to do college work may register as unclassified students and take a limited program. Persons less than twenty-one years of age who wish to carry only a few courses may be admitted as unclassified students if they are able to meet fully the entrance requirements for regular freshman standing.

Persons of some maturity who have had experience that manifestly prepares them for college work may be given entrance credit for such work. For what forms of work credit may be given and how many credits may be granted cannot be stated in advance; each case is considered individually.

Admission as an unclassified student is in no case permitted to serve as a means of avoiding compliance with the requirements laid down for regular students.

ADMISSION OF AUDITORS. Persons desiring the privilege of attending classes as auditors must have the written consent of the chairman of the Committee on Admissions, of the chairman of the department concerned, and of the instructor of the course. In general, auditors are not allowed in laboratory science, mathematics, language, English composition, or speech courses.

ADMISSION OF GRADUATE STUDENTS. Graduates of accredited colleges and universities who wish to pursue graduate study in the University of Hawaii should apply to the Dean of the Graduate Division. Each application should be accompanied by an official transcript of undergraduate record and of any graduate work completed at another institution. Admission to graduate study is provisional until such records are on file. These transcripts become a permanent part of the University files.

REGISTRATION, WITHDRAWAL, AND OTHER CHANGES

Dates upon which students register for courses in the University are stated in the "University Calendar." Students entering in the autumn receive a circular telling them how to proceed in registering. Courses offered in the University are described in this
catalogue under "Courses of Instruction," and a schedule stating the time and place of meeting of each course is issued by the Registrar in September for the first semester, in January for the second semester, and in May for the summer session.

REGISTRATION OF UNDERGRADUATE STUDENTS. Before they register, undergraduates must decide which of the four colleges of the University they wish to enter, and select one of the programs offered by the college chosen. Each undergraduate is assigned at registration time to a faculty member who acts as his adviser in selecting courses. Credit is given only for courses regularly entered upon the registration card.

REGISTRATION OF GRADUATE STUDENTS. All graduate students follow the same procedure in registration as do undergraduates.

REGISTRATION OF AUDITORS AND UNCLASSIFIED STUDENTS. Auditors and unclassified students register after the period assigned to the registration of regular students, and in accordance with instructions issued at the beginning of each semester.

AUDITING OF COURSES BY REGULAR STUDENTS. Regular students are not permitted to audit courses in excess of the maximum student load, or to register as auditors until after the regular registration period.

ARRANGEMENT OF CREDITS IN ADVANCE. The number of credits obtainable in most courses is stated in the "Announcement of Courses" section of the Catalogue and in the time schedule. However, certain courses in which students carry on individual work are marked "credit by arrangement." Such statements do not signify that the credits are to be determined at the end of the semester. The student registers for a definite number of credits and may earn no more than that number.

LATE REGISTRATION. The University permits registration for credit after the announced registration days in any semester only in exceptional cases and for valid reasons. The following rules govern such late registration: (1) during the first seven days following the last official day of registration, written approval must be obtained from the dean of the college concerned; (2) from the seventh to the fourteenth day, written approval must be obtained from the dean of the college concerned and from the course instructor; (3) at any subsequent time written approval must be obtained from the Council of Deans upon submission of a written petition.

These same rules apply to students who wish to register for courses in addition to those signed for during the official registration period. Auditors need not comply with these regulations, except that they cannot change to credit status after the above late registration periods.

WITHDRAWAL FROM COURSES OR FROM THE UNIVERSITY. Withdrawal is the voluntary severance by a student of his connection with a course or with the University. An undergraduate wishing to withdraw from a course must have the written consent of the dean in whose college he is registered. This consent must be stated on a form obtained by the student from the dean and returned to the Registrar bearing the dean's signature. Withdrawals from the University must be applied for on a form available at the Registrar's office; signatures as indicated on the form must be obtained, and the completed application returned to the Registrar's office.

During the first five weeks of a semester a formal withdrawal is marked W on the student's record. A withdrawal at a later date, but prior to the last two weeks of class instruction in a semester, is marked W if the work of the student while he was registered in the course was passable; otherwise it is marked F (for failure). No withdrawals are permitted during the last two weeks of instruction in a semester. A student who ceases to attend a course without complying with the official procedure for withdrawing receives an F in the course.
CREDITS, GRADES, GRADE POINTS, HONORS

OTHER CHANGES OF STUDENTS' PROGRAMS OF STUDY. A student may transfer from one of the University's colleges to another at the end of either semester. Application for transfer must be made on a form obtainable at the Registrar's office. The application must be approved by the deans of the two colleges concerned and should be returned to the Registrar's office at least two weeks before the end of the first semester, and by August 15, during the summer.

CREDITS, GRADES, GRADE POINTS, HONORS

The University recognizes work accomplished by students in terms of credits, grades, grade points, and honors.

A credit (also called a semester hour and a credit hour) is given to a student for work satisfactorily accomplished during three hours a week spent in the preparation and recitation of assignments in a course, or in the field, or laboratory. The normal division of this time in non-laboratory courses is one hour in the classroom and two hours in preparatory work, but the division of this time is usually left to the instructor in charge.

Grades given in undergraduate courses are A, B, C, D, E, F, and I. The lowest passing grade is D. A grade of E is a conditional failure and a grade of I is incomplete. An E or an I may be removed, but students who receive them are expected to take the initiative by conferring with the instructor or instructors concerned. A student who receives an E may change it to another grade by passing a special examination or performing special work prescribed by the instructor, provided this is done in the semester following that for which the condition was given. However, no grade points (defined herein) are given for a course in which a condition was recorded. An I is given to a student who has failed to complete a small but important part of a semester's work before the semester grades are determined, if the instructor believes that failure was caused by conditions beyond the student's control and not by carelessness or procrastination. To receive credit for a course for which an I has been reported, the student must make up the incomplete work before the Thanksgiving or Easter recess of the semester following that for which the grade was given. If the work is not thus completed, the I will stand and the student will receive neither credits nor grade points in that course. If the work is completed, the instructor will report a semester grade, taking the completed work into consideration. Credits and grade points will then be computed as if a grade of I had not been previously recorded. Credit in a course for which an F is given may be obtained only by repeating the course and passing it.

Grades given in graduate courses are H (for honors), S (satisfactory), and U (unsatisfactory). The honors grade is awarded for exceptionally good work. Graduate students in undergraduate courses are graded on the undergraduate scale, A to F.

Grade points are computed for all courses in which grades are reported, including Military Science, and Health and Physical Education. They are computed as follows: for each credit received in a course, 4 grade points are granted if the grade is A, 3 if the grade is B, 2 if the grade is C, and 1 if the grade is D.

Students entering as undergraduates with advanced standing are not given grade points upon work done elsewhere; but on work done in the University of Hawaii such students must gain grade points in the same proportion to credit hours required for graduation as that demanded of other students.
Honors may be granted at graduation to undergraduates who have a grade-point average of 3.4 or above for their undergraduate work. At least 60 semester hours of the work of such honor students must have been obtained at the University during a period not exceeding six years before graduation.

**Transfers to Other Institutions.** Accredited American institutions of higher learning, including the University of Hawaii, give students who transfer credit toward graduation only in those subjects for which they have received a grade of C or better. (See "Tuition and Fees" for further information about transfers.)

**Requirements for Advancement toward Graduation**

Scholastic accomplishment in the University of Hawaii is judged by comparing the number of grade points and credits earned with the registered credits, that is, with the number of credit hours for which a student is registered six weeks after the beginning of a semester.

Further registration is denied to the following classes of students:

1. Those who have failed to pass in any semester (or who were not passing when they withdrew from the University) in 50 per cent of their registered credits.
2. Those who have failed to earn, after two semesters' attendance, 1.5 times as many grade points as the total of their registered credits.
3. Those who are deficient in oral and written English after two semesters' attendance and who have less than a 2.0 grade-point ratio in other subjects. (This applies to students who entered in September, 1914, and thereafter.)
4. Those who have failed to earn, after four semesters' attendance, 1.8 times as many grade points as the total of their registered credits.
5. Those whose progress in oral English is unsatisfactory after four semesters of speech instruction.

At the direction of the Faculty Committee on Scholastic Standing, students may be warned in case they fail to pass in any semester in 75 per cent of their registered credits or to maintain a record showing twice as many grade points as total registered credits, and furthermore, may be placed on the grade-point rule, or denied further registration. The grade-point rule is a requirement that a student earn over a stated period of time twice as many grade points as credits for which he is registered, in other words, a C average. Failure to comply with the grade-point rule may result in refusal to permit further registration.

Ordinarily failure in the first semester of a year course bars the student from registering for the second semester of that course.

Warnings of low scholarship are given by instructors and deans, usually at the end of the first and second six-week periods of each semester, but the student should not assume that his work is of passing grade merely because he has not been warned. The University assumes no responsibility if a warning that has been mailed to a student fails to reach him.

If a student has been in attendance up to the time of the final examination, but is absent from the examination, the instructor may give an "Incomplete" for the course. Within one week after the examination the instructor must determine the reasons for the absence, and if such reasons are unsatisfactory the final examination shall count as an F in computing the grade which must then be turned in to remove the "Incomplete."

Regular attendance at class and laboratory sessions is expected. Unavoidable absence should be explained to the instructors concerned.
UNDERGRADUATE DEGREE REQUIREMENTS

CREDIT AND GRADE-POINT REQUIREMENTS. The minimum credit requirements for the baccalaureate (bachelor's) degree in all colleges are 130.

A minimum of a 2.0 grade-point ratio for all registered credits, except where a W or an I was recorded, is required for graduation from any of the four colleges. (Students who entered prior to September, 1944, may proceed on the former basis of 264 grade points.)

To receive a degree, after failure to graduate because of lack of grade points, a student must earn a specified number of grade points in courses approved by the dean of the college in which the student is registered. The number required is a minimum of 30 grade points in some one semester, or a minimum of 14 grade points in a six-week summer session.

KINDS OF BACCALAUREATE DEGREES. Upon satisfactory completion of a regular program in the College of Applied Science and the College of Agriculture, a candidate is granted the degree of Bachelor of Science (B.S.); the diploma designates the particular program that has been pursued.

The degree of Bachelor of Arts (B.A.) is granted upon the satisfactory completion of a regular program in the College of Arts and Sciences.

Satisfactory completion of a regular program in Teachers College leads to the award of the degree of Bachelor of Education (B.Ed.). Holders of bachelor degrees who complete the Teachers College five-year program, by taking a year of additional work in Teachers College, are awarded five-year diplomas.

RESIDENCE REQUIREMENTS. The University grants baccalaureate degrees only to those students who earn a minimum of 30 semester hours in residence (that is, in class or laboratory work on the University of Hawaii campus) and who in addition do one of the following:

(1) take a minimum of 14 credit hours a semester in the University during the two semesters just preceding the granting of the degrees; or

(2) earn a minimum total of 24 residence credits during any four or five consecutive summer sessions just preceding the granting of the degrees; or

(3) earn a minimum total of 24 residence credits by carrying not less than two credit hours per semester and six credit hours per summer in any three of four consecutive years just preceding the granting of the degree.

Not more than 25 per cent of the total credits earned at the University of Hawaii for a degree may be obtained in extension courses (courses offered off the campus); and if the residence requirement conflicts with the extension allowance, the residence requirement takes precedence.

TIME WITHIN WHICH WORK MUST BE COMPLETED. All graduation requirements must be completed within 10 years of the first registration. The college deans are empowered to extend this period in certain exceptional cases.

TRAFFIC VIOLATIONS

Students who receive written notices of the violation of campus traffic regulations will (1) have no grades recorded, and (2) be denied further registration until such time as the violations are adjusted to the satisfaction of the University Treasurer.
LIBRARY FINES

Students who fail to satisfy Library fines by the end of a semester will be denied (1) permission to register for the following semester or summer session; (2) graduation at the end of the semester in question; and (3) honorable dismissal.

MEDICAL SCHOOL REQUIREMENTS

Premedical students expecting to enter the University of Hawaii may apply for entrance to the College of Arts and Sciences. The program during the first two years is based upon the requirements of the American Medical Association.

Although medical schools generally have adopted the entrance requirements recommended by the American Medical Association, there is considerable variation in requirements among schools. Each prospective student of medicine should inform himself of the requirements of the institution at which he expects to enroll.

AMERICAN MEDICAL ASSOCIATION ENTRANCE REQUIREMENTS

PREPARATORY SCHOOL. A minimum of 15 units, of which at least three must be in English, two in some one foreign language, two in algebra, one in geometry, and one in history.

UNIVERSITY. A minimum of 60* credit hours as follows:

<table>
<thead>
<tr>
<th>Semester Hours</th>
<th>University of Hawaii Equivalent</th>
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</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td>Chemistry 103, 149 (4 credits), 230 (4 credits)</td>
</tr>
<tr>
<td>Physics</td>
<td>Physics 102</td>
</tr>
<tr>
<td>Biology</td>
<td>Zoology 100, 151, 261</td>
</tr>
<tr>
<td>English Composition</td>
<td>English 100 or 101</td>
</tr>
<tr>
<td>French, German, or Spanish</td>
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</tbody>
</table>

Total 45

Fifteen semester hours of electives from the following fields: botany, chemistry, economics, English, history, mathematics, psychology, sociology, and zoology.

TUITION AND FEES

Students registered for 10 or more credit hours in any semester pay $50 for tuition and $10 for registration per semester. Students registered for fewer than 10 credit hours in any semester pay $5.00 per credit hour. For summer session fees see the statement under "Summer Session."

Persons who register after the announced days of registration pay a late registration fee of $1.00.

All fees must be paid in full at the time of registration, and no registration card will be finally accepted until it is endorsed showing payment.

Laboratory and special course fees are stated in the descriptions of courses. If the instructor feels it is justified, students may be charged for excessive breakage of equipment.

*A majority of medical schools are now requiring 90 credit hours.
Students who take the college aptitude test pay a $1.00 fee at the time of examination. Tuition and laboratory fees may be refunded to students who withdraw from courses, the percentage refunded to be in accordance with the following schedule:

Withdrawal during:
- first two weeks of instruction: 100%
- third week of instruction: 80%
- fourth week of instruction: 60%
- fifth week of instruction: 40%
- sixth week of instruction: 20%
- remainder of semester: 0%

In no case is the registration fee or any part of it refunded.

A fee of $2.00 is charged for each change in registration after the initial registration, unless such changes are due to reasons beyond the control of the student. This fee does not apply to complete withdrawals from the University.

A fee for diploma or certificate must be paid to the Business Office before any such diploma or certificate can be received by a student. For the five-year diploma, the certificate in social work, and the public health nursing certificate the fee is $2.50. For all other degrees and diplomas the fee is $5.00.

A graduate student receiving an advanced degree must pay, before the degree is awarded, a fee of $4.00 to cover the cost of binding two copies of his thesis.

Caps, gowns, and hoods for use in graduation ceremonies may be rented.

A student who requests the Registrar to send a transcript of his work to another institution is not required to pay for the first copy, but is charged $1.00 for each subsequent copy.

Steel book lockers for student use are situated in Hawaii Hall. The use of a locker for the first and second semesters may be obtained from the Business Office by paying $1.00, of which 50 cents will be refunded provided the key is returned before Commencement Day.

At the request of the Associated Students of the University of Hawaii (A.S.U.H.) and with the consent of the Board of Regents, the University Business Office collects certain student fees at the time tuition and registration fees are collected. These student fees are class dues of $1.00 a year and the A.S.U.H. annual membership fee for undergraduates taking 10 or more semester hours. For other students the A.S.U.H. fee is optional. These fees are not collected for the summer session. Privileges that these fees purchase are described in the A.S.U.H. Handbook, which is available to all students.

MILITARY TRAINING

Instruction is offered in military science and tactics in accordance with the requirements stipulated by Congress in legislation relating to land-grant colleges. The basic (freshman and sophomore) courses in military science must be taken by every physically fit male student who is an American citizen, who is at least 14 years of age, whose twenty-seventh birthday has not passed at the time of enrollment in the University, who (1) is (or was at the time of entering the University) a freshman or a sophomore, or (2) is an unclassified student carrying more than nine credit hours of work and having fewer than 64 college credits. Military training in the junior and senior years is optional for selected students who have completed the basic courses, provided the number of such students does not exceed the quota authorized by the War Department. Completion of the four-year program leads to a commission in the Officers' Reserve Corps. Veterans with more than one year of service may receive credit for the basic courses, and are eligible for advanced training if approved by the Department of Military Science.
HEALTH, PHYSICAL EDUCATION, AND SPORTS

The University expects every student to safeguard his health and offers certain aids toward that end. Before entering the University, every new student must have a medical and physical examination by a reputable physician. The student makes his own arrangements and pays the physician. The University provides a form for the physician to use in reporting the examination. If subsequent examinations are needed, the University makes them in its infirmary without cost to the student.

At the infirmary a trained nurse is on duty throughout the day and a physician during certain hours. First-aid service is available to students suffering from minor ills and injuries; no charge is made for this service and no responsibility is assumed by the University. Any student who needs medical attention beyond that which the University can reasonably give should make his own arrangements with a physician.

The University also offers instruction in health and conducts a program of recreation and sports designed to promote the health of students. Freshman and sophomore men and women under 25 years of age who are registered for 10 or more semester hours of academic work must take at least one credit hour in Health and Physical Education courses each semester (see "Health and Physical Education" under "Courses of Instruction"). All students are required to take Health and Physical Education 130, Personal Hygiene.

A student enrolled in a required course in Health and Physical Education and also participating in a varsity sport may be excused from attendance at the Health and Physical Education class during the season of that sport, if the course requirements have been met.

Intramural sports are planned with a view to serving the Health and Physical Education Department and to supplementing the regular courses offered.

Varsity sports are conducted independently of the activities of the Health and Physical Education Department. They are governed by a Board of Athletic Control composed of 13 members: the Vice President, the Dean of Faculties, the Dean of Student Personnel, the Treasurer, the Director of Athletics, the Chairman of the Department of Health and Physical Education (all ex officio), the President of the Associated Students of the University of Hawaii, two students, two members of the instructional staff, and two members of the Alumni Association. The Board forms policies for intercollegiate athletics, drafts budgets, and makes contracts and other arrangements for contests between the University of Hawaii and other colleges and athletic groups.

Although the University takes reasonable precautions, it assumes no responsibility for injuries received in sports or games.

THE UNIVERSITY EXTENSION DIVISION

The University Extension Division provides non-credit courses on and off the campus, and credit courses off the campus at times and places convenient for the persons thus served. It maintains extension centers offering credit courses at Hilo, Hawaii, and at Schofield Barracks, Oahu. A program of correspondence courses carrying university credit is made available to those who cannot attend classes.

Visiting lecturers and resident faculty members are scheduled for public appearances on the campus, in Honolulu, and in outlying communities.
Admission to extension courses offering credit is governed by the rules that apply to admission to residence courses. Credits gained in University of Hawaii extension courses may be applied toward the bachelor's degree, but not more than 25 per cent of the total credits required to be earned in the University for the degree may be extension or correspondence credits; such credits are not counted as fulfilling the residence requirements. Credits earned in extension or correspondence courses will be accepted by mainland universities which accept the credits of member institutions of the National University Extension Association.

Non-credit courses are open to all adults who have had the equivalent of a high school education.

Announcements of extension courses and other forms of service are issued from time to time.

**SUMMER SESSION**

The University regularly conducts a six-week summer session in which many of the required courses of the college curriculums are offered. Student programs are limited to six credit hours. Tuition for the summer session is $5.00 per credit hour. No registration fee is charged. The Summer Session Announcement may be obtained from the Office of Publications and Publicity.

In 1948 a limited number of courses will be offered at branch sessions in Hilo and on Guam.

**STUDENT LIFE**

The Associated Students of the University of Hawaii is a self-governing organization whose major objective is to promote and direct undergraduate extracurricular student activities and to cooperate with the University administration in student affairs. Its members include all regular students who pay A.S.U.H. fees. An elected council directs its activities. The A.S.U.H. Handbook describes the organization and functions in detail.

Among the activities in which the A.S.U.H. engages are athletics (football, baseball, track, basketball, swimming, and minor sports), debating, dramatics, a semi-weekly newspaper (Ka Leo o Hawaii), and a yearbook (Ka Palapala).

*Ka Leo o Hawaii* and *Ka Palapala* are integral parts of the curriculum in journalism, and are to be regarded as workshops for students enrolled in English 120–121 (Newswriting) and English 222–223 (Publishing and Editing). Students are not eligible for positions on the editorial staffs of student publications unless they are taking or have taken at least one of the regular courses in journalism.

The University of Hawaii Theatre Guild presents each year plays which give opportunities for participation and study to the maximum number of interested students of all races.

All regular students of the University are eligible to try out for membership in the music organizations. Tryouts for the A Cappella Choir, Chorus, University Band, Orchestra, and vocal and instrumental ensembles are conducted at the beginning of each school year, and at other times by special appointment.

Student societies include some 50 scholastic, honorary, professional, religious, and social organizations.
The staff of the Office of Student Personnel assists students with such personal problems as those of residence, health, part-time employment, scholastic progress, social life, vocational guidance, and finance. In cooperation with the University Treasurer, arrangements are made for loans to students in good standing.

**LIVING ACCOMMODATIONS AND EXPENSES**

All possible assistance in locating suitable living accommodations is given to students by the Office of Student Personnel. The acute housing shortage, however, makes it impossible for the University to assure all students of living quarters.

Men students ordinarily may obtain comfortable lodgings at Atherton House, a dormitory adjoining the campus. Room rates range from $40 to $100 a semester. Further information concerning the accommodations may be obtained at Atherton House, P. O. Box 18, Honolulu 10, Hawaii.

Most residents of Atherton House take their meals at Hemenway Hall, where food is served cafeteria style at reasonable rates.

Twenty-eight women students are housed at Hale Laulima, a cooperative women's dormitory. The rent is $31.50 each semester, payable at the time of registration. Rent for a six-week summer session is $11. Each young woman shares a double room, assists in cooking and housekeeping, and shares living expenses, including the cost of food. Total current living expenses on this plan approximate $30 per person per month. Requests for assignment to Hale Laulima should be directed to the Counselor for Women.

Minimum expenses of the average student are estimated at from $600 to $750 a year for board, room, tuition, registration, course fees, class and student body fees, and books. Some students find low-cost living accommodations that enable them to reduce this figure to around $500. These estimates do not cover the cost of clothing, laundry, and other personal necessities.

Many students earn a small part of their expenses. A few very capable students succeed in meeting about 25 per cent of their expenses by doing part-time work.

**LOAN FUNDS**

Through the generosity of various organizations and individuals, certain funds have been provided from which worthy students may borrow—either in small amounts to meet emergencies or in larger sums in order to defer part of the payment of tuition costs until after graduation. A student wishing to make use of these funds should consult the dean of the college in which he is enrolled or the Dean of Student Personnel with respect to the proper procedure for application and the conditions under which the various loans are granted. Loan funds include the following:

- Alumni Student Aid Fund
- Alumni Fund—Molokai Chapter
- American Bankers Association Fund
- American Legion Fund
- Business and Professional Women's Club Fund
- Chinese Students' Alliance Fund
- Commerce Club Fund
- Daughters of the American Revolution, Student Fund of Hawaii
- Dr. Ruth Alexander Student Fund
- Emergency Fund
- Future Farmers of America,
- Uniwai Chapter Fund
- George H. Lamy Fund
- Hawaiian University Association Fund
SCHOLARSHIPS

SCHOLARSHIPS

Scholarship aid in various forms is available to qualified students. Such aid is provided partly through appropriations from the Territorial Legislature and partly through contributions from private organizations. A few scholarships are supported by endowment funds. Awards are based, in general, on (1) character, (2) scholastic ability and achievement, and (3) financial need.

The period covered by awards is usually one year, the chief exception being in the case of the territorial scholarships which cover four years. The granting of a scholarship implies that the recipient is expected to carry a regular load of college work with success. Any award may be withdrawn at the close of any semester in case a satisfactory academic record is not maintained.

The chief kind of aid for entering freshmen consists in the territorial scholarships described below. For freshman students there are very few other scholarships available. However, several community organizations provide scholarship opportunities for deserving local students who desire to enter the University. Full information about scholarships offered by the University for entering freshmen is sent to the principals of all local high schools during the spring.

For undergraduate students on the campus who are of sophomore rank or above, a considerable number of scholarships are available. Information may be obtained from the chairman of the Scholarship Committee.

Prospective graduate students who need financial assistance should communicate with the Dean of the Graduate Division, who will give information in regard to forms of aid which can be offered.

For students from abroad, there are provided by the University Board of Regents a limited number of tuition scholarships, which have the value of $100 each. Requests for such aid will be considered only after the right of admission to the University has been granted. Interested students should communicate with the Director of Admissions, presenting a full, clear statement in regard to (1) financial need and (2) the method whereby the period of study at the University will be financed.

To upperclassmen in agriculture interested in tropical crop production, grants-in-aid in the amount of $750 a year are frequently made by the Hawaiian Sugar Planters' Association. Holders of these grants are excused from the payment of University fees. Information may be obtained from the Coordinator of Training, Hawaiian Sugar Planters' Association, Honolulu, Hawaii.

General inquiries should be addressed to the Chairman of the Scholarship Committee, University of Hawaii, Honolulu 10, Hawaii.

The following scholarships are currently offered:
Territorial scholarships—Six scholarships of $120 each, awarded annually to entering freshmen; one scholarship given to a resident of each representative district in Hawaii; held four years, provided that beneficiary maintains a satisfactory record of work on the campus; supported by the Territorial Legislature.

Other scholarships administered by the Scholarship Committee—Architectural (sponsored by the Hawaii Chapter, American Institute of Architects); Chinese Community; Leora Parmalee Dean (sponsored by the Women’s Campus Club); Alonzo Gartley (in agriculture); Honolulu Civic Association; Wah Kau Kong Memorial (sponsored by Peng Hui); Korean American Cultural Association; Korean University Club; Ruth C. Scudder Memorial (sponsored by the Women’s League of Central Union Church); Stephen Spaulding; Teachers College Club. Also the Theodore Richards and Mary Atherton Richards fellowship (for a graduate student in the School of Social Work; sponsored by friends of Dr. and Mrs. Richards).

Scholarships administered by private organizations, with assistance from the University Scholarship Committee—Associated Chinese University Women; Chinese Women's Club; Chinese University Club; Elks (the Benevolent and Protective Order of Elks, Lodge No. 616, of Honolulu); Wallace Rider Farrington (for graduates of Wallace Rider Farrington High School; sponsored by the Honolulu Star-Bulletin); Sociedad Fil-Americana; Hawaiian Junior Chamber of Commerce; Kauai High School Alumni Association; Leeward Oahu Lions Club; Leilehua High School, Class of 1935; Retail Board of the Chamber of Commerce of Honolulu; Te Chih Sheh; Yang Chung Hui. Also the Western Pacific Teachers’ Scholarships (sponsored by the Zonta Club of Honolulu).

Scholarships administered entirely by private organizations (list of independent awards concerning which the Scholarship Committee has direct information)—“Chu” Baldwin Memorial (sponsored by Puunene Community Association); Hui Makaala; Hoomana Kahana Club (of Mid-Pacific Institute); Pearl Harbor Naval Shipyards Graduate Apprentice.

PRIZES AND AWARDS

DEAN PRIZE FOR UNDERGRADUATE RESEARCH. In 1927 the faculty of the University, in honor of Dr. Arthur Lyman Dean, resigning President, established a fund to be known as the Dean Prize Fund, the proceeds to be used in stimulating interest in undergraduate research. Any senior in the University may compete for this prize of not less than $25 nor more than $50 each year by presenting to the Dean Prize Committee a thesis in which he reports fully upon his research in any field of intellectual endeavor. The committee, appointed by the President, selects the thesis which in its judgment is the best example of originality, independence, logic, and form of presentation. The winning paper is placed in the Hawaiian Room of the Library.

BANKS MEMORIAL PRIZE. The Charles Eugene Banks Memorial Prize, the income from a $500 endowment, is awarded each year to the student whose manuscript is judged to be the best received in a creative writing contest.

HAWAIIAN SECTION OF THE AMERICAN CHEMICAL SOCIETY PRIZE. A one-year student membership in the American Chemical Society is awarded each year to the most outstanding senior majoring in chemistry. The name of the winner is engraved on a bronze plaque in Gartley Hall.
PHI BETA KAPPA RECOGNITION AWARD. This is an award made by the Phi Beta Kappa Association of Hawaii in recognition of high scholastic standing among seniors.

PHI KAPPA PHI PRIZE. The Hawaii chapter of Phi Kappa Phi honor society awards a $20 cash prize to the senior who graduates with the highest scholastic record in his class.

BEST SOLDIER AWARDS. Since 1924 the Honolulu Star-Bulletin has sponsored a Best Soldier competition in which gold, silver, and bronze medals are awarded each year to the three most outstanding freshman and sophomore members of the Reserve Officers' Training Corps. Judgment is based on scholastic standing in the study of military science as well as on military performance.

REAL DEANS AWARDS OF HONOR. The Associated Students of the University of Hawaii annually awards medals to students who, in the opinion of fellow students, have given time and effort willingly, untiringly, and without thought of reward to the promotion of A.S.U.H. activities.

BERNDT PRIZES FOR EXTTEMPORANEOUS PUBLIC SPEAKING. The Associated Students of the University of Hawaii annually awards medals to the students judged best in an extemporaneous speaking contest.

UNIVERSITY ORATORY PRIZES. The Associated Students of the University of Hawaii annually awards medals to the students judged best in an oratorical competition.

THEATRE GUILD DICTION AWARDS. The University of Hawaii Theatre Guild annually awards a medal to the student actor in each of its productions whose diction is judged best.

WARRIOR OF THE PACIFIC TROPHY. Since 1928 the United States War Department has supervised an annual rifle marksmanship competition among Reserve Officers' Training Corps infantry units in American universities and colleges for the possession of a bronze statuette of a native Hawaiian soldier. Residents of Hawaii offered the trophy for the competition.
In keeping with the liberal arts tradition, the College of Arts and Sciences aims to give a comprehensive acquaintance with those fields of thought and achievement upon which our present civilization is based, with the objective of developing in its students those ideals, interests, and attitudes characteristic of cultured people, and the ability to think intelligently.

Certain combinations of courses provide preprofessional preparation for such activities as business, dentistry, law, medicine, public administration, and social work. The four-year programs lead to the Bachelor of Arts degree.

Because of its geographical position, midway between continental America and the Far East, Hawaii should understand the Orient as well as the Occident. Therefore, more than usual attention is given to the history, languages, literature, and philosophy of the major Asiatic countries.

ADMISSION

Admission requirements, except for the premedical and predental programs, are the same as those for admission to the University as a whole. (See p. 34.)

Each freshman in the college is admitted to one of the following groups, the selection depending upon his interests: Social Sciences; Languages, Literature, and Art; Biological and Physical Sciences; Economics and Business.

DEGREE REQUIREMENTS

To be entitled to the Bachelor of Arts degree from this college a student must:

(1) Meet certain basic requirements of the first two years.
(2) Complete a major field of study.
(3) Have at least 50 semester hours of credit in other than introductory courses.
(4) Have an aggregate of at least 130 semester hours of credit (beginning with the class entering in September, 1946).
(5) Have a 2.0 grade point ratio for all registered credits, except where a W or I was recorded. (See "Undergraduate Degree Requirements.")

CURRICULUMS

The curriculums of the College of Arts and Sciences center around the major fields of concentration. All students must meet the basic requirements of the first two years, and complete a major, with related courses, during the last two years. These requirements, with the necessary electives, constitute a curriculum in each case. A major consists of 24 to 36 semester hours in some one field of concentration. Related courses are courses in other departments which are associated with and contribute to the major. Twelve semester hours is the maximum which any department may require in related courses. The major must be indicated by the beginning of the third year.
BASIC REQUIREMENTS

FIRST YEAR

English 100 or 101
Foreign language
Health & Physical Education 101, 102
History 100
Military Science 100
Science
Speech (as required)

SECOND YEAR

English 150
Foreign language
Government 150
Health & Physical Education 103, 130
History 110
Military Science 101
Speech (as required)

In addition, six of the following must be completed: Anthropology 150, Art 140, Economics 140 or 150, Mathematics 150 or 151, Music 110, Philosophy 100, Psychology 150, Religion 150 or 151, Sociology 151.

A number of these basic requirements may be anticipated in the secondary school program. Entering freshmen who have had four years of a language are excused from the foreign language requirement, and those in the Social Sciences and Languages, Literature, and Art who have had three years of science in the senior high school are excused from the science requirement. Also, during the Freshman Orientation Period, qualified students may take examinations in world history, American history, English composition, and foreign language to satisfy the requirements of History 100, History 110, English 101, and foreign language. All entering freshmen are tested in speech, and those who meet an adequate standard are excused from further work in this field.

For students in the Social Sciences and Languages, Literature, and Art, who must take a year of science, this requirement may be satisfied by six to eight credits from the following courses: Botany 100, Chemistry 100 or 103, Entomology 170, Geology 150, 151, 152–153, Physics 100 or 102, Psychology 150, Survey 100, Zoology 100 or 110. Those in Economics and Business meet the science requirement by taking Geography 150, 151.

MAJORS

The following list indicates the departments in which students may major and the requirements for the major—the total number of semester hours required, the specific courses in the department, and the related courses (not more than 12 hours).

ANTHROPOLOGY. Major requirement: 24 semester hours. Required courses: Anthropology 150 and an even distribution between regional courses (250 to 260) and topical courses (265 to 275). Related courses: Geography 150, Philosophy 150 or 151, Psychology 150, Sociology 151, Zoology 100 or 110.

ART. Major requirement: 28 semester hours. Required courses: Art 150–151, 154–155, 250–251, 269 and others as needed to complete one of the divisions—(a) Fine Arts, (b) Applied Design, (c) Ceramics, (d) Commercial Art. Related courses: as selected, with approval of the adviser.


BOTANY. Major requirement: 24 hours semester hours. Required courses: Botany 100, 102, 173, 269, 279. Related courses: as selected, with approval of the adviser.

BUSINESS. Major requirement: 36 semester hours. Required courses: Business 150–151. Related courses: Economics 150–151 and others as selected, with approval of the adviser.

CHINESE. Major requirement: 30 semester hours. Required courses: Chinese 100, 101, 200, 293–294, History 225. Related courses: as selected, with approval of the adviser.

ECONOMICS. Major requirement: 33 semester hours. Required courses: Economics 150–151. Related courses: as selected, with approval of the adviser, from business, geography, government, history, philosophy, psychology, sociology.

ENGLISH. Major requirement: 36 semester hours. Required courses: English 101, 150, nine hours in "periods" of literature, six hours in single authors, three hours in American literature, six hours in the English language, writing and criticism. Related courses: History 209–210, Philosophy 150, 151.


FRENCH. Major requirement: 26 semester hours. Required courses: French 100, 181, 201, 250, 270. Related courses: as selected, with approval of the adviser.


GOVERNMENT. Major requirement: 27 semester hours. Required courses: Government 150, 260, 282, 290; for Public Administration, Government 283, 284, 286, and 288 are also required. Related courses: as selected, with approval of the adviser.

HISTORY. Major requirement: 30 semester hours. Required courses: History 100 and 9 hours from each of two of the three fields—(a) United States, (b) Pacific and Far East, (c) European. Related courses: as selected, with approval of the adviser.

JAPANESE. Major requirement: 26 semester hours. Required courses: Japanese 100, 101, 203, 260. Related courses: as selected, with approval of the adviser.

MATHEMATICS. Major requirement: 24 semester hours. Required courses: Mathematics 150, 151, 154, 155. Related courses: Physics 102 or 104 and others as selected, with approval of the adviser.


PHILOSOPHY. Major requirement: 24 semester hours. Required courses: Philosophy 150–151, 280. Related courses: as selected, with approval of the adviser.


PSYCHOLOGY. Major requirement: 28 semester hours. Required courses: Psychology 150, 260, 264 or 267, 295. Related courses: as selected, with the approval of the adviser.
PREPROFESSIONAL PREPARATION


SOCIETY. Major requirement: 24 semester hours. Required courses: Sociology 151, 267, 282. Related courses: as selected, with approval of the adviser.

SPANISH. Major requirement: 24 semester hours. Required courses: Spanish 100, 101, 252, 253, 254–255. Related courses: as selected, with approval of the adviser.

SPEECH. Major requirement: 30 semester hours. Required courses: Speech 100, 140 (one semester), 150, 220, 230, 231. Related courses: as selected, with approval of the adviser.

ZOOLOGY. Major requirement: 30 semester hours. Required courses: Zoology 100, 151, 261, 291. Related courses: Botany 100, Chemistry 103.

PREPROFESSIONAL PREPARATION

The following programs are recommended as offering desirable preprofessional preparation in the various fields. They are suggested rather than required, as variations are often necessary in order to meet the needs of certain students or the requirements of certain professional schools.

PRELEGAL PROGRAM

It is expected that all prelegal students will major in history, government, or economics. The basic requirements of the first two years are the same in each case, and student programs will be governed accordingly. Chemistry 103 is suggested for the science requirement of the first year.

The work of the last two years is largely elective, but the following courses are strongly advised: Business 150–151, 250–251, Economics 256, 257, 261, Government 282, History 211, 252, Psychology 250, 295, Speech 150, 151.

PREMEDICAL PROGRAM

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<thead>
<tr>
<th>FIRST YEAR</th>
<th>SECOND YEAR</th>
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<tbody>
<tr>
<td>Chemistry 103</td>
<td>Chemistry 149</td>
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<tr>
<td>English 100 or 101</td>
<td>English 150</td>
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<tr>
<td>French 100 or German 100</td>
<td>French 101 or German 101 or 102</td>
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<tr>
<td>Health &amp; Physical Education 101, 102</td>
<td>Health &amp; Physical Education 103, 130</td>
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<tr>
<td>History 100</td>
<td>Military Science 101</td>
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<tr>
<td>Mathematics 150, 151, or 151, 152</td>
<td>Speech (as required)</td>
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<tr>
<td>Military Science 100</td>
<td>Zoology 100, 151</td>
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<td>Speech (as required)</td>
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THIRD YEAR

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<tr>
<td>Chemistry 150, 230</td>
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<tr>
<td>Government 150</td>
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<tr>
<td>History 110 or 242</td>
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<tr>
<td>Physics 102</td>
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<tr>
<td>Psychology 150, 295</td>
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<tr>
<td>Zoology 261</td>
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This program meets medical school requirements as outlined by the American Medical Association (see p. 42), and also many of the basic requirements of the College of Arts and Sciences. Completion of the further required work of the college entitles the student to the Bachelor of Arts degree.

Predental students follow this program with such modifications as are necessary to satisfy dental school requirements.

PUBLIC ADMINISTRATION PROGRAM

Students expecting to enter the field of public administration major in government and follow the program in public administration. In conformity with the rules of the College of Arts and Sciences they must complete 27 semester hours in government in order to qualify for the Bachelor of Arts degree.

In order to insure an adequate background of preparation certain courses in government are required and others strongly recommended. Required courses: Government 150, 260, 282, 283, 284, 286, 288, 290. Recommended courses: Government 248, 252, 254, 256, Economics 261, 265, 270, 283, English 210, and a course in statistical methods.

Source materials in public administration are available in the University library, and a working library, somewhat more special in character, is maintained by the Legislative Reference Bureau. It is expected that students in public administration will make frequent use of the Bureau's facilities for study and research. Informal seminars throughout the academic year bring together students, public officers, and others interested in the various phases of public administration in the Territory.

Enrollment in Government 288 is limited to seniors registered in the public administration program. Research in this course is conducted in cooperation with the Legislative Reference Bureau, and students are expected to engage in individual projects as well as to cooperate in a class project.

Enrollment in the public administration program is open to persons engaged in public service who are desirous of training in public administration, and who are able to satisfy University admission requirements. Effort will be made to schedule courses so as to permit attendance during working hours by persons in the public service.

Under the direction of the Graduate Division, the Department of Government also provides instruction in public administration for qualified students who wish to pursue work leading to the Master of Arts degree.

PRESOCIAL WORK PROGRAM

Students who plan to enter the School of Social Work (see p. 79) may major in any of the social sciences. They must have a minimum of 40 semester hours in social science and related fields, including 6 semester hours from each of the following departments, chosen from the courses listed: (a) Economics—256, 261, 282, 283; (b) Government—248, 254, 261, 282; (c) Psychology—185, 260, 264, 280, 290, 291, 292, 295; (d) Sociology—255, 256, 265, 267, 270, 274, 275, 282. In addition, Social Work 200 must be taken in the junior or senior year.

Biological science should be elected to satisfy the lower division science requirement. Intention of preparing for social work should be indicated by the beginning of the third year.
The College of Applied Science offers curriculums in Engineering, Medical Technology, Nursing Administration and Education, Public Health Nursing, and Recreation Leadership. These curriculums lead to the degree of Bachelor of Science. The first two years of an architecture program are offered. A special one-year program leads to a certificate in public health nursing.

ADMISSION

Some of the programs of this college require special preparation in addition to the requirements for admission to the University as a whole (see p. 34). Students who are lacking in this required special preparation are unable to follow the regular programs, and usually need more than four years to complete the degree requirements.

DEGREE REQUIREMENTS

In order to be eligible for the Bachelor of Science degree from this college a student must:

1. Complete the course requirements of a curriculum.
2. Have at least 50 semester hours of credit in other than introductory courses.
3. Have an aggregate of at least 130 semester hours of credit.
4. Have a 2.0 grade-point ratio for all registered credits except where a W or I were recorded. (See "Undergraduate Degree Requirements.")

ENGINEERING CURRICULUM

The Engineering curriculum is designed to give training in the fundamental principles upon which professional engineering practice is based.

During the first two years the general plan provides a broad foundation in English, mathematics, chemistry, physics, and mechanical drawing. The work of the last two years is more technical and professional.

<table>
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<tr>
<th>FIRST SEMESTER</th>
<th>FIRST YEAR</th>
<th>SECOND SEMESTER</th>
</tr>
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<tbody>
<tr>
<td></td>
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<td>3</td>
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<td>Mathematics 151</td>
<td>3</td>
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</tr>
<tr>
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<td>3</td>
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<td>Speech (as required)</td>
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<td>18</td>
<td><strong>Total</strong></td>
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<td><strong>FIRST SEMESTER</strong></td>
<td><strong>SECOND YEAR</strong></td>
<td><strong>SECOND SEMESTER</strong></td>
</tr>
<tr>
<td>-------------------</td>
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</tr>
<tr>
<td><strong>SEMINAR HOURS</strong></td>
<td><strong>SEMINAR HOURS</strong></td>
<td><strong>SEMINAR HOURS</strong></td>
</tr>
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<td>Civil Engineering 101</td>
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<td>Civil Engineering 101</td>
</tr>
<tr>
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<td>3</td>
<td>English 150 or Elective</td>
</tr>
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<td>Health &amp; Physical Education 103 or 130</td>
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<td>Mathematics 154</td>
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<td>Speech (as required)</td>
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<td><strong>Total</strong></td>
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<table>
<thead>
<tr>
<th><strong>THIRD YEAR</strong></th>
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</thead>
<tbody>
<tr>
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<tr>
<td>Civil Engineering 252</td>
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<td>Civil Engineering 255</td>
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<tr>
<td>Economics 140</td>
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<td>Mechanical Engineering 202</td>
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<table>
<thead>
<tr>
<th><strong>FOURTH YEAR</strong></th>
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<tbody>
<tr>
<td>Civil Engineering 229</td>
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<tr>
<td>Civil Engineering 276</td>
</tr>
<tr>
<td>Civil Engineering 279</td>
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<td>Civil Engineering 292</td>
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<tr>
<td>Mechanical Engineering 282</td>
</tr>
<tr>
<td>Physics 202</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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</tbody>
</table>

**PREARCHITECTURAL PROGRAM**

Students intending to take a degree in Architecture must transfer to another institution at the beginning of the junior year.

<table>
<thead>
<tr>
<th><strong>FIRST YEAR</strong></th>
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</thead>
<tbody>
<tr>
<td>Architectural Engineering 101</td>
</tr>
<tr>
<td>Art 154</td>
</tr>
<tr>
<td>English 100 or 101</td>
</tr>
<tr>
<td>Health &amp; Physical Education 101</td>
</tr>
<tr>
<td>Mathematics 151</td>
</tr>
<tr>
<td>Mechanical Drawing 103</td>
</tr>
<tr>
<td>Military Science 100</td>
</tr>
<tr>
<td>Speech (as required)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
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### CURRICULUMS

#### FIRST SEMESTER

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>English 150 or 155</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Physical Education 103</td>
<td>3</td>
</tr>
<tr>
<td>or 130</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics 153*</td>
<td>3</td>
</tr>
<tr>
<td>Mechanical Drawing 152</td>
<td>2</td>
</tr>
<tr>
<td>Military Science 101</td>
<td>2</td>
</tr>
<tr>
<td>Physics 102</td>
<td>4</td>
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<tr>
<td>Speech (as required)</td>
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#### SECOND SEMESTER

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>Architectural Engineering 102</td>
<td>3</td>
</tr>
<tr>
<td>English 150 or Elective</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Physical Education 103</td>
<td>1</td>
</tr>
<tr>
<td>or 130</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics 154*</td>
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<tr>
<td>Mechanical Drawing 153</td>
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<td>Physics 102</td>
<td>4</td>
</tr>
<tr>
<td>Speech (as required)</td>
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</tr>
</tbody>
</table>

**Total** 19 **Total** 20

#### MEDICAL TECHNOLOGY CURRICULUM

The Medical Technology curriculum provides for three years of course work on the campus, and a fourth year of practical experience in hospital laboratories. Beginning with the summer session preceding the fourth year and continuing throughout the year. Students register for Medical Technology 266, 267, and 268. During the second semester provision is made for five semester hours of electives to meet the total credit requirements of the college. Completion of this curriculum entitles the student to the Bachelor of Science degree and certification as a Medical Technologist.

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 103</td>
<td>4</td>
</tr>
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<td>English 100 or 101</td>
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<tr>
<td>Health &amp; Physical Education 101</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics 150</td>
<td>3</td>
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<tr>
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**Total** 16

**SECOND YEAR**

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<th>Hours</th>
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<tbody>
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<tr>
<td>Chemistry 159</td>
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<tr>
<td>English 150 or Elective</td>
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</tr>
<tr>
<td>Health &amp; Physical Education 103</td>
<td>3</td>
</tr>
<tr>
<td>or 130</td>
<td>1</td>
</tr>
<tr>
<td>History 110</td>
<td>3</td>
</tr>
<tr>
<td>Speech (as required)</td>
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</tr>
<tr>
<td>Zoology 260</td>
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</table>

**Total** 16

*Art 150-151 may be substituted for Mathematics 153-154, but the latter is recommended for students planning to transfer to mainland schools.*
### FIRST YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>Bacteriology 140</td>
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<tr>
<td>Chemistry 103</td>
<td>4</td>
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<tr>
<td>English 100 or 101</td>
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<td>Electives</td>
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### SECOND YEAR

<table>
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<tbody>
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<tr>
<td>English 150 or 155</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Physical Education 103 or 130</td>
<td>1</td>
</tr>
<tr>
<td>History 110</td>
<td>3</td>
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<tr>
<td>Philosophy 100</td>
<td>3</td>
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<td>Psychology 150</td>
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<tr>
<td>Speech (as required)</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
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### THIRD YEAR

<table>
<thead>
<tr>
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<th>Semester Hours</th>
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<td>Bacteriology 151</td>
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</tr>
<tr>
<td>History 110</td>
<td>3</td>
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<td>Philosophy 100</td>
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<tr>
<td>Speech (as required)</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

### NURSING CURRICULUMS

The program in Nursing is designed to prepare for either nursing education and administration or public health nursing. The work of the first two years may be taken either before or after graduation from a school of nursing, although the sequence as outlined is recommended.

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>Bacteriology 140</td>
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<td>English 100 or 101</td>
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<td>Household Science 150</td>
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<td>Electives</td>
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**SECOND YEAR**

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<td>Psychology 150</td>
<td>4</td>
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<tr>
<td>Speech (as required)</td>
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<tr>
<td><strong>Total</strong></td>
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</table>

**THIRD YEAR**

Graduates of approved schools of nursing are allowed 30 semester hours credit for the third year of this program.

*Summer sessions only.*
FOURTH YEAR

In addition to the regular University admission requirements, admission to the fourth year of nursing requires: (1) graduation from an approved school of nursing with a satisfactory record; (2) registration as a nurse in the state, territory, or country in which the training was obtained; (3) personal and professional fitness for nursing as shown by credentials, interviews, and tests; and (4) good health as evidenced by a physical examination satisfactory to the University of Hawaii.

NURSING EDUCATION AND ADMINISTRATION

FIRST SEMESTER

<table>
<thead>
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<th>Hours</th>
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<tbody>
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<tr>
<td>Nur. 255</td>
<td>3</td>
</tr>
<tr>
<td>Nur. 256</td>
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<tr>
<td>Nur. 262</td>
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<td>Nur. 265</td>
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SECOND SEMESTER

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<tr>
<td>Nur. 252</td>
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<tr>
<td>Nur. 253</td>
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<tr>
<td>Nur. 261</td>
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PUBLIC HEALTH NURSING

FIRST SEMESTER

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<td>Nur. 271</td>
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<tr>
<td>Nur. 280</td>
<td>3</td>
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<tr>
<td>Nur. 281</td>
<td>2</td>
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<tr>
<td>Nur. 282</td>
<td>3</td>
</tr>
<tr>
<td>Nur. 283</td>
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<td>Psy. 280</td>
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SECOND SEMESTER

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<td>Nur. 291</td>
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FIFTH YEAR

In addition to the regular University admission requirements, admission to the fifth year of nursing requires: (1) graduation from an approved school of nursing with a satisfactory record; (2) registration as a nurse in the state, territory, or country in which the training was obtained; (3) personal and professional fitness for nursing as shown by credentials, interviews, and tests; and (4) good health as evidenced by a physical examination satisfactory to the University of Hawaii.

ONE-YEAR PROGRAM IN PUBLIC HEALTH NURSING

With the cooperation of the Territorial Board of Health and other community agencies, the University of Hawaii offers a one-year program in public health nursing. Classroom work occupies the first semester. During the second semester students take part in the public health nursing program of cooperating agencies.

Students who complete the required program with an average grade of C or higher receive a certificate in public health nursing.

The required courses are: Household Science 270 or 273; Nursing 271, 280, 281, 282, 283, 290, 291; and Psychology 280.

RECREATION CURRICULUM

This curriculum is intended for prospective leaders of the recreational activities conducted by municipalities, social agencies, or plantation communities. At present only the first two years are offered. The third and fourth years will be added as needed.

FIRST SEMESTER

<table>
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<th>Course</th>
<th>Semester Hours</th>
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<tbody>
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<td>English 100 or 101</td>
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<td>Health &amp; Physical Education 132</td>
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<td>History 100</td>
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<td>Military Science 100</td>
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TOTAL 17 SEMESTER HOURS

SECOND SEMESTER

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<tr>
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<tbody>
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<td>Chemistry 100</td>
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<td>English 101</td>
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<td>Health &amp; Physical Education 102</td>
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<tr>
<td>Health &amp; Physical Education 170</td>
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<td>History 100</td>
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<td>Speech (as required)</td>
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</tr>
<tr>
<td>Zoology 100</td>
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TOTAL 18 SEMESTER HOURS
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<th>Second Semester</th>
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</thead>
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<tr>
<td></td>
<td>SEMESTER HOURS</td>
<td>SEMESTER HOURS</td>
</tr>
<tr>
<td>English 150 or 155</td>
<td>3</td>
<td>Economics 140</td>
</tr>
<tr>
<td>Health &amp; Physical Education 103</td>
<td>1</td>
<td>English 150 or Elective</td>
</tr>
<tr>
<td>Health &amp; Physical Education 140</td>
<td>2</td>
<td>Government 150</td>
</tr>
<tr>
<td>History 110</td>
<td>3</td>
<td>Health &amp; Physical Education 120</td>
</tr>
<tr>
<td>Military Science 101</td>
<td>2</td>
<td>Military Science 101</td>
</tr>
<tr>
<td>Psychology 150</td>
<td>4</td>
<td>Psychology 185</td>
</tr>
<tr>
<td>Sociology 151</td>
<td>3</td>
<td>Speech (as required)</td>
</tr>
<tr>
<td>Speech (as required)</td>
<td>1</td>
<td>Total: 19</td>
</tr>
</tbody>
</table>
The function of Teachers College is to prepare teachers for the public schools of Hawaii and to afford those already in service an opportunity to improve themselves professionally. Standard preparation for teaching positions in the public schools of the Territory requires four years of undergraduate work and a graduate year. The four-year program leads to the Bachelor of Education degree, and the year of graduate work to the five-year diploma. Admission to the fifth year requires professional preparation equivalent to that represented by the Bachelor of Education degree, or the Bachelor of Science degree in Vocational Education. (See "Vocational Education.")

**ADMISSION**

In addition to the general University admission requirements, students admitted to Teachers College must meet certain standards of college aptitude, scholarship, health, personality, and oral English.

**DEGREE REQUIREMENTS**

To be eligible for the Bachelor of Education degree, a student must:

1. Have an aggregate of at least 130 semester hours of credit.
2. Have a 2.0 grade-point ratio for all registered credits, except where a W or I was recorded. (See "Undergraduate Degree Requirements").
3. Have met all University degree requirements (e.g., English, American history, physical education).
4. Have met the course requirements specified for one of the Teachers College curriculums.

**FIVE-YEAR DIPLOMA REQUIREMENTS**

To be eligible for the five-year diploma a student must:

1. Have the Bachelor of Education degree, or the equivalent, including directed teaching experience under conditions comparable to the provisions set up in the University of Hawaii laboratory schools.
2. Have had other professional education, psychology, and general education courses at the undergraduate level comparable to the requirements for the Bachelor of Education degree.
3. Have the specific course background required for one of the curriculums offered by Teachers College.
4. Have satisfactorily met the requirement of one semester of intern teaching, as provided under the joint auspices of Teachers College and the Department of Public Instruction.
5. Have satisfactorily met other specified professional course requirements.
PROFESSIONAL CERTIFICATE REQUIREMENTS

The standard certificate for public school teaching service in Hawaii is the professional certificate. The general requirement for this certificate is five years of college work, including practice teaching and other professional course experiences. In addition, the candidate must have met the specific course and curriculum requirements for the grade of certificate sought (e.g., preschool-primary, elementary, secondary).

Requirements for the professional certificate can be met as follows:

1. By fulfillment of requirements for the Teachers College five-year diploma.
2. By earning 30 semester hours of credit, after receiving the Bachelor of Education degree or its equivalent, including courses at the graduate level in educational philosophy, evaluation in education, and advanced educational psychology.

Professional certificate (non-degree) candidates register in Teachers College; candidates for the Master of Education degree register in the Graduate Division. (See p. 79.)

CURRICULUMS

The curriculums are virtually identical for the first two years, but some variation is allowed in electives.

During the third year students are introduced to the professional information and background necessary for public school service.

The fourth-year program consists largely of professional education. One semester is devoted to practice teaching and allied educational courses; the offsetting semester provides opportunity for other needed professional course experiences. While one group of students carries the practice-teaching work, the other carries the courses of the offsetting semester. Modifications of the above provisions are as follows: clinical practice, required of prospective dental hygienists and corresponding to practice teaching, represents about one-third of the senior load and is spread over the full year; the program of students in preparation for the more highly specialized instructional service of the high school is modified to permit greater latitude in the selection of courses.

PRESCHOOL-PRIMARY CURRICULUM

<table>
<thead>
<tr>
<th>FIRST SEMESTER</th>
<th>FIRST YEAR</th>
<th>SECOND SEMESTER</th>
</tr>
</thead>
<tbody>
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SEMESTER HOURS

Total 16
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| Total           | 17          | Total           |

| Third Year      |             |                 |
| Education 235   | 1           | Education 235   |
| Education 237   | 2           | Education 238   |
| Education 283   | 3           | Education 284   |
| English 252     | 2           | English 252     |
| Sociology 250   | 3           | Household Science 156 |
| Speech 230      | 5           | Speech 265      |
| Electives       | 3           | Electives       |
| Total           | 17          | Total           |

| Total           | 17          | Total           |

| Fourth Year     |             |                 |
| Education 239   | 2           | Education 254   |
| Education 289   | 3           | Education 255   |
| Education 298   | 3           | Education 298   |
| Health & Physical Education 230 | 2 | Health & Physical Education 230 |
| Psychology 292  | 3           | Speech 231      |
| Electives       | 3           | Electives       |
| Total           | 16          | Total           |

| Total           | 17          | Total           |

| Fifth Year      |             |                 |
| Education 340   | 3           | Education 354   |
| Education 361   | 3           | Education 395   |
| Education 390   | 2           | Education 390   |
| Psychology 351  | 2           | Psychology 351  |
| Social Work 200 | 3           | Social Work 200 |
| Electives       | 3           | Electives       |
| Total           | 16          | Total           |

| Total           | 16          | Total           |
# Elementary Curriculum

## First Semester

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## Third Year

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* Differentiation in preparation for lower elementary and upper elementary grades provided by means of (1) separate sectioning of professional education courses, and (2) assignment for practice and intern teaching.
### CURRICULUMS

#### FIRST SEMESTER

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#### FOURTH YEAR

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#### SECOND SEMESTER

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#### FIFTH YEAR

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#### SECONDARY CURRICULUM

##### FIRST YEAR

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<td>or 130</td>
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##### SECOND YEAR

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*For a science teaching field concentration, laboratory science courses (Chemistry, Physics, Botany, Zoology) are substituted for Survey 150, 151, 152.
## Teachers College

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### Third Year

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### Dental Hygiene Curriculum

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<td>History 100</td>
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*As advised to meet two teaching field concentrations, in addition to courses listed above: English: 202, 204, 205, 254, 261. Social Studies: Economics 140; Geography 261; History 242-243 (instead of History 110); Government 260; Education 247. Science: Physics 102; Botany 100; Zoology 100; Chemistry 103; Education 245. Mathematics: 150, 151, 152; Education 246. Health and Physical Education: 120, 132 (instead of 130), 201, 202, 280, 285; Education 252. Music: 160, 161, 170, 171, 270, 280, 290, 291. Commercial Education: Business 150-151, 170, 177, 259; Economics 140; Education 249. Library Science: 260, 262, 266, 269, 284, 354 (instead of Education 354); English 255. Speech: 140, 150, 220, 230, 231. Other courses in each of the above teaching field concentrations may be required in individual cases. (For a single field concentration other courses, as advised, are required.)*
# CURRICULUMS

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**Total** 17

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**Total** 17

## THIRD YEAR

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<td>Dental Hygiene 231</td>
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</tr>
<tr>
<td>Dental Hygiene 252</td>
<td>1</td>
</tr>
<tr>
<td>Education 235</td>
<td>1</td>
</tr>
<tr>
<td>Education 285</td>
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<tr>
<td>Household Science 272</td>
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</tr>
<tr>
<td>Speech 230</td>
<td>1</td>
</tr>
<tr>
<td>Zoology 265</td>
<td>3</td>
</tr>
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</table>

**Total** 17

## FOURTH YEAR

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Dental Hygiene 254</td>
<td>5</td>
</tr>
<tr>
<td>Dental Hygiene 260</td>
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<tr>
<td>Dental Hygiene 262</td>
<td>2</td>
</tr>
<tr>
<td>Speech 231</td>
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<tr>
<td>Electives</td>
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</tbody>
</table>

**Total** 16

## FIFTH YEAR*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>Education 361</td>
<td>3</td>
</tr>
<tr>
<td>Education 390</td>
<td>2</td>
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<td>Psychology 351</td>
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<tr>
<td>Electives</td>
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</tbody>
</table>

**Total** 16

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*Territorial Dental Board examinations, authorizing the practice of dental hygiene, are taken after completion of the fourth year. The fifth year is provided for dental hygienists interested in broadening their preparation to include other aspects of health education.*
LABORATORY SCHOOLS

Practical experience in teaching is given in Teachers College laboratory schools. These schools also serve as experimental laboratories. In order to insure a rich experience for the children enrolled and to set a high standard of achievement for the student teachers, conditions are made as nearly ideal as possible, with small classes, selected children, excellent quarters and equipment, and a strong supervising staff assisted by specialists in art, health, library science, physical education, music, and gardening. Clinical facilities are provided on the campus for practical experience in dental prophylaxis.

Observation-participation experience in the third year and probationary or intern teaching in the fifth year are provided in selected public schools under the joint supervision of Teachers College and the Department of Public Instruction, and in the Preschool-Primary unit.

VOCATIONAL EDUCATION

Prospective vocational agriculture and home economics teachers obtain their undergraduate preparation in the College of Agriculture (see "College of Agriculture"). Basic professional education courses and practice teaching are required. Selective standards, including those in English, used in Teachers College apply to prospective vocational teachers. Students in these divisions will register in Teachers College for the fifth (graduate) year. For the work of this year, see "Requirements for the Five-Year Diploma."
The College of Agriculture prepares students for professional work in the fields of agriculture and home economics. In agriculture the student may secure basic training in the agricultural sciences or specialize in tropical crop production or vocational agriculture. A wide choice of electives permits the building of a program for special needs.

Three curriculums are offered in home economics: General Home Economics, Institutional Management, and Vocational Home Economics Teaching.

All curriculums in the College of Agriculture lead to the Bachelor of Science degree.

The College of Agriculture also includes the Hawaii Agricultural Experiment Station and the Cooperative Extension Service in Agriculture and Home Economics.

ADMISSION

The requirements for admission to this college are, in general, the same as those for admission to the University as a whole. (See p. 34.) Students who are lacking some of this required preparation are unable to follow the regular programs and usually need more than four years to complete the degree requirements.

DEGREE REQUIREMENTS

In order to be eligible for the Bachelor of Science degree from this college a student must:

1. Complete the course requirements of a curriculum.
2. Have at least 50 semester hours of credit in other than introductory courses.
3. Have an aggregate of at least 130 semester hours of credit.
4. Have a 2.0 grade-point ratio for all registered credits, except where a W or I was recorded. (See "Undergraduate Degree Requirements.")

CURRICULUMS IN AGRICULTURE

The program in Agriculture is designed to give the student a knowledge of the fundamental principles underlying agriculture as a science, and to prepare him for effective service in practical farming, teaching of agriculture, or research. The program is broadly conceived to give a background in the biological and physical sciences, and in the social sciences as well.

Students interested in Agricultural Engineering may, with approval of the dean, substitute certain courses in engineering, mathematics, and physics for some of the required courses in agriculture.
## GENERAL AGRICULTURE

### FIRST SEMESTER

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture 152</td>
<td>3</td>
</tr>
<tr>
<td>Botany 100 or Zoology 100</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 103</td>
<td>4</td>
</tr>
<tr>
<td>English 100 or 101</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Physical Education 101</td>
<td>1</td>
</tr>
<tr>
<td>Military Science 100</td>
<td>1</td>
</tr>
<tr>
<td>Speech (as required)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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### SECOND SEMESTER

<table>
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<tr>
<th>Course</th>
<th>Hours</th>
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<tr>
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<td>Chemistry 103</td>
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<tr>
<td>English 101</td>
<td>3</td>
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<tr>
<td>Health &amp; Physical Education 102</td>
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<td>1</td>
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<tr>
<td>Speech (as required)</td>
<td>1</td>
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<tr>
<td><strong>Total</strong></td>
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### FIRST YEAR

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<tbody>
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<td>English 150</td>
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<tr>
<td>Health &amp; Physical Education 103 or 130</td>
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</tr>
<tr>
<td>History 110</td>
<td>3</td>
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### SECOND YEAR

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</tr>
<tr>
<td>Botany 173</td>
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</tr>
<tr>
<td>English 150</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Physical Education 103</td>
<td>1</td>
</tr>
<tr>
<td>or 130</td>
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<td>Electives</td>
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### RECOMMENDED ELECTIVES

Bacteriology 151; Botany 158, 161, 263; Chemistry 149; Economics 140; Geology 150, 151; Physics 102.

### THIRD YEAR

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture 250</td>
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<td>Agriculture 254</td>
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<tr>
<td>Zoology 170</td>
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<tr>
<td>Electives</td>
<td>6 or 7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17 or 18</strong></td>
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### RECOMMENDED ELECTIVES

Agriculture 253, 257, 261, 267, 268, 281, 282, 291; Botany 273, 275.

### FOURTH YEAR

The work of the fourth year is entirely elective.

### RECOMMENDED ELECTIVES (IN ADDITION TO THOSE OF THE THIRD YEAR)

Agriculture 292; Business 263; Economics 281, 291; Zoology 253, 257.
## Vocational Agriculture

### First Semester

<table>
<thead>
<tr>
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<th>Hours</th>
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<tbody>
<tr>
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<td>Chemistry 103</td>
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<td>English 100 or 101</td>
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<td>Health &amp; Physical Education 101</td>
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<td>1</td>
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<td><strong>Total</strong></td>
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### Second Semester

<table>
<thead>
<tr>
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<th>Hours</th>
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<tr>
<td>Botany 100 or Zoology 100</td>
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<tr>
<td>Chemistry 103</td>
<td>4</td>
</tr>
<tr>
<td>English 101</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Physical Education 102</td>
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<td>1</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
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### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture 164</td>
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<tr>
<td>English 150</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Physical Education 103</td>
<td>1</td>
</tr>
<tr>
<td>History 110</td>
<td>3</td>
</tr>
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<td>Military Science 101</td>
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<tr>
<td>Psychology 150</td>
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<td>1</td>
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<td><strong>Total</strong></td>
<td><strong>17</strong></td>
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</table>

### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture 162</td>
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<td>Botany 173</td>
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<td>English 150</td>
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<td><strong>Total</strong></td>
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### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Agriculture 250</td>
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<td>Agriculture 254</td>
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<tr>
<td>Speech 230</td>
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<td>Zoology 170</td>
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<tr>
<td>Electives</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>17 or 18</strong></td>
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### Recommended Electives

Agriculture 253, 257, 261, 267, 268, 281, 282, 291; Botany 273, 275.

### Fourth Year

<table>
<thead>
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<tbody>
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### Recommended Electives (In addition to those of the Third Year)

Agriculture 292; Business 263; Economics 281, 291; Zoology 253, 257.
# TROPICAL CROP PRODUCTION

## First Semester

<table>
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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Botany 100 or Zoology 100</td>
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</tr>
<tr>
<td>Chemistry 103</td>
<td>4</td>
</tr>
<tr>
<td>English 100 or 101</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Physical Education 101</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics 150</td>
<td>3</td>
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<td>Military Science 100</td>
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<tr>
<td>Speech (as required)</td>
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</tr>
</tbody>
</table>

**Total** 17

## Second Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botany 100 or Zoology 100</td>
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</tr>
<tr>
<td>Chemistry 103</td>
<td>4</td>
</tr>
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<td>English 101</td>
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<td>Health &amp; Physical Education 102</td>
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<td>History 110</td>
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<td>Military Science 100</td>
<td>1</td>
</tr>
<tr>
<td>Speech (as required)</td>
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</tbody>
</table>

**Total** 17

## Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteriology 151</td>
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</tr>
<tr>
<td>Chemistry 149</td>
<td>4</td>
</tr>
<tr>
<td>English 150</td>
<td>3</td>
</tr>
<tr>
<td>Health &amp; Physical Education 103</td>
<td>1</td>
</tr>
<tr>
<td>or 130</td>
<td>1</td>
</tr>
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<tr>
<td>Physics 102</td>
<td>4</td>
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<tr>
<td>Speech (as required)</td>
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**Total** 19

## Third Year

<table>
<thead>
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<th>Course</th>
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<tbody>
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<tr>
<td>Agriculture 254</td>
<td>3</td>
</tr>
<tr>
<td>Botany 273 or Elective</td>
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</tr>
<tr>
<td>Chemistry 150</td>
<td>4</td>
</tr>
<tr>
<td>Zoology 170</td>
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</tr>
</tbody>
</table>

**Total** 18

## Summer Practice in Industry—10 Weeks

Although summer practice is not required for graduation, it is a highly desirable part of the program. Such work may be readily arranged.

## Fourth Year

<table>
<thead>
<tr>
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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Agriculture 281</td>
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</tr>
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<td>Botany 273 or Elective</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 230</td>
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</tr>
<tr>
<td>Electives</td>
<td>7</td>
</tr>
</tbody>
</table>

**Total** 17
Students intending to specialize in Foods and Nutrition or Clothing and Textiles follow the General Home Economics curriculum, selecting electives according to their interests.

### GENERAL HOME ECONOMICS

<table>
<thead>
<tr>
<th>First Semester</th>
<th>First Year</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Art 150</strong></td>
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<td><strong>Art 151</strong></td>
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<tr>
<td>Chemistry 100</td>
<td>3</td>
<td>Chemistry 100</td>
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<tr>
<td>English 100 or 101</td>
<td>3</td>
<td>English 101</td>
</tr>
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<td>Health &amp; Physical Education 101</td>
<td>1</td>
<td>Health &amp; Physical Education 102</td>
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<tr>
<td>Home Economics 100</td>
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<td>Household Art 110</td>
<td>3</td>
<td>Household Art 151</td>
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<td><strong>Total</strong></td>
<td>16</td>
<td><strong>Total</strong></td>
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<table>
<thead>
<tr>
<th>Second Year</th>
</tr>
</thead>
<tbody>
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<td>Economics 140</td>
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<td>Speech (as required)</td>
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<td>Zoology 110</td>
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<table>
<thead>
<tr>
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<tbody>
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<td>Home Economics 250</td>
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<td>Home Economics 253</td>
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<td>Household Art 114</td>
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<td>Household Science 272</td>
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<table>
<thead>
<tr>
<th>Fourth Year</th>
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<tbody>
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<td>Home Economics 262</td>
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<tr>
<td>Home Economics 291 or Elective</td>
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<td>Electives</td>
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<td><strong>Total</strong></td>
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</tbody>
</table>

- **Note:** The hours listed in the table are indicative, and students should consult with their academic advisors for specific requirements and electives.
SUGGESTED ELECTIVES—THIRD AND FOURTH YEARS

Art 160, 175, 250–251; English 120–121, 260–261; Government 150; Household Art 152, 253; Household Science 273, 275, 299; Music 110–111; Philosophy 150 or 151; Speech 150, and a foreign language.

Students intending to specialize in Foods and Nutrition take Chemistry 103; Household Science 200 and 299, and may elect Household Science 300 in the senior year. They should also take Mathematics 151; Chemistry 150, 230, and 232.

Those intending to specialize in Clothing and Textiles take Art 160, 175, 250–251, 270, 274; Household Art 152, 253, and 299. Business and Economics courses should be included, depending upon student interests.

INSTITUTIONAL MANAGEMENT AND DIETETICS

<table>
<thead>
<tr>
<th>First Semester</th>
<th>First Year</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>Art 150</td>
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<td>English 100 or 101</td>
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<td>Chemistry 103</td>
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<td>Health &amp; Physical Education 101</td>
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<td>English 101</td>
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<td>Home Economics 100</td>
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<td>Health &amp; Physical Education 102</td>
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<td>Speech (as required)</td>
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INSTITUTIONAL MANAGEMENT AND DIETETICS

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## CURRICULUMS IN HOME ECONOMICS

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**Total** 15

### FOURTH YEAR SEMESTER

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### SECOND SEMESTER

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**Total** 15

### SUGGESTED ELECTIVES

- Home Economics 201; Household Science 250, 263, 264, 265, 266, 273, 299; Business 263, 281; Psychology 250, 256; and other courses suggested for general home economics.

- Household Science 250 is required by the American Dietetic Association for additional training in hospital dietetics. Household Science 265, 299, and Business 263 are required by the National Restaurant Association for their apprentice training.

### VOCATIONAL HOME ECONOMICS

Students who expect to teach must complete the four-year program in Vocational Home Economics and the fifth-year work in Teachers College. Those expecting to qualify for positions in the Agricultural Extension Service complete the same requirements for the four-year program. They must also take Home Economics 295 in the senior year.

#### FIRST YEAR SEMESTER

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#### SECOND YEAR SEMESTER

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**Total** 18
### First Semester

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### Third Year

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**Total** 16

### Second Semester

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**Total** 15 or 16

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**Total** 14 or 16

### Suggested Electives

Art 262, 263; Sociology 250; Psychology 292; Household Science 267, and others as listed for general home economics.
GRADUATE DIVISION

Graduate study in the University is open only to students with bachelor's degrees from accredited institutions of higher learning. No formal application to enroll for a program of graduate study is necessary unless the student wishes to work toward an advanced degree or certificate. Arrangements for the specific program of study should be made in consultation with the Dean of the Graduate Division.

The University offers graduate work leading to:

1. The Doctor of Philosophy degree in those sciences basic to tropical agriculture.
2. The Master's degree in anthropology, bacteriology, botany, business, chemistry, economics, education, English, entomology, Far Eastern studies, genetics, government, history, nutrition, philosophy, physics, psychology, sociology, soil science, speech, and zoology.
3. The professional certificate for teachers in the employ of the Department of Public Instruction of the Territory of Hawaii.
4. The graduate certificate in social work.

REQUIREMENTS FOR DEGREE OF DOCTOR OF PHILOSOPHY

The degree of Doctor of Philosophy is offered only in the sciences basic to tropical agriculture.

For this degree the student is required to spend three academic years in graduate study, at least one year of which must be at the University of Hawaii, and one year in an accredited mainland graduate school; to complete satisfactorily a program of research and study prescribed by the committee in charge of his candidacy; and to pass certain examinations. A qualifying general examination, which includes a test of reading knowledge of both French and German, must be passed at least one academic year (nine months) prior to the awarding of the degree; the student will not be considered a candidate for the degree until he has passed this examination. The candidate must write a dissertation and present and defend it in the final examination.

REQUIREMENTS FOR THE MASTER'S DEGREE

The University awards the degrees of Master of Arts, Master of Science, and Master of Education.

The minimum period of residence is one academic year (two semesters) or four six-week summer sessions.

Thirty semester hours of graduate study are required for the master's degree. All work connected with the thesis must be registered for as thesis research (course number 400 in each major field). For thesis research the usual credit allowance is six hours, but a maximum of 12 hours may be allowed in the natural and physical sciences. At least six credits toward the master's degree must be earned in courses primarily for graduate students (300–399). The remaining credits may be earned in courses num-
bered 200–299, but additional work must be done in such courses and a grade of A or B must be earned. All of the courses offered by the candidate should be in his major field of interest or in one or two closely allied fields. Candidates for the Master of Education degree are restricted to one minor of six to 10 credits. A reading knowledge of a foreign language is required in certain fields and, at the discretion of the qualifying committee, may be required of a candidate in any field.

Graduate work completed at other institutions, up to a maximum of eight semester hours, may be accepted as fulfilling part of the requirements for the master's degree. No credits earned in extension courses may be counted toward an advanced degree.

ADMISSION TO CANDIDACY. Admission to candidacy for the master's degree is granted only after a committee, representing the special field in which a candidate proposes to work for an advanced degree, is satisfied as to the adequacy of his preparation and his probable ability to pursue graduate work successfully.

No student will be considered for admission to candidacy for an advanced degree unless he can meet the following requirements:

1. Ability to use written English effectively as demonstrated by grades in undergraduate courses in English composition or by a special examination conducted by the University English Department.

2. An adequate undergraduate background in the major and minor fields in which the master's degree is to be taken.

3. A good undergraduate scholastic record, with a grade of B or better in undergraduate courses in the major field or an average grade of at least B in all courses carried in the junior and senior years.

Candidates for advanced degrees failing to complete successfully two or more courses taken after admission to candidacy are automatically dropped from candidacy.

THE THESIS. A thesis is required of all candidates for the master's degree and should be selected within the field of the major. The thesis problem must be approved by the candidate's qualifying committee and by the Graduate Council. After such approval the candidate may register for the thesis research course (number 400 within each field), and a faculty committee is appointed to supervise the preparation of the thesis. The thesis must be written in acceptable English and show evidence of ability to conduct research intelligently and to arrive at logical conclusions. A candidate expecting to receive the master's degree in June must notify the Dean of the Graduate Division not later than the beginning of the second semester, and must submit copies of the completed thesis to members of his committee for final checking by May 15.

THE FINAL EXAMINATION. Arrangements for the final examination should be made at least one month prior to the end of the semester or summer session in which the candidate expects to receive the degree. The examination is conducted by the members of the candidate's advisory committee and any others especially designated. It is open to all faculty members. The examination is on the thesis, but may cover any fundamental knowledge required for the research work or necessary to the conclusions reached. If the results of the examination are satisfactory, a typewritten and a carbon copy of the thesis, both signed by the members of the examining committee, must be deposited in the Library to become the permanent possession of the University. A fee for the binding of both copies must be paid to the University Business Office.
THE TEACHER'S PROFESSIONAL CERTIFICATE

The Department of Public Instruction of the Territory of Hawaii grants the professional certificate to teachers in the employ of the Department who complete the following work: a total of 30 semester hours of graduate work, 10 of which must be earned in courses primarily for graduates (300 to 399), including Philosophy of Education, Advanced Educational Psychology, and Evaluation in Education.

THE SCHOOL OF SOCIAL WORK

Admission to the School of Social Work requires, in addition to completion of the undergraduate program (see p. 54), (1) a bachelor's degree from a university or college of recognized standing and eligibility for admission to graduate standing at the University of Hawaii; and (2) evidence of the personal qualifications necessary for success in social work.

Candidates must submit an application, a statement of their interest in the field of social work, and a transcript of any academic work taken at institutions other than the University of Hawaii. Notice of acceptance will be sent to successful applicants, and written corroboration of intention to register for the full year's program is requested.

Instructors may admit to individual courses a few qualified persons who have had experience in social work but do not intend to take the full program.

Registration in field work courses is open only to full-time professional social work students. Two semesters of field work are required. Students receive instruction in social work practice under supervision in recognized social work agencies. The number of field work assignments is limited. Late applicants may be rejected because of the difficulty in arranging such assignments.
By an act of Congress in 1928, the University of Hawaii was empowered to set up a department to be designated as the Hawaii Agricultural Experiment Station and was entitled to receive the federal grants for agricultural research appropriated by Congress for such experiment stations in each of the states. By provisions made at the same time, the federal experiment station, established in 1901 on the slopes of Punchbowl and Tantalus, was to be gradually absorbed into the new station as the federal grant funds increased from year to year. This transition was completed in 1938. The history of the federal station is an inseparable part of the history of the Hawaii Agricultural Experiment Station, and the latter may also be said to share in the history and accomplishments of all the state land-grant colleges and experiment stations.

The facilities of the Hawaii station, including the research staff, the field laboratory, and the flocks and herds, are available in part for undergraduate and graduate instruction. Thus students have unusual opportunities to come into close contact with the newer advances in agricultural research and to see and study their application. The close collaboration maintained with the experiment stations of the Hawaiian Sugar Planters' Association and the Pineapple Research Institute of Hawaii is of value in the agricultural research of all parties and in University instruction, for in Hawaii diversified agricultural interests must, in most instances, be integrated with those of the dominant crops.

The function of the Experiment Station is "to promote scientific investigation and experiments respecting the principles and applications of agricultural science" (Hatch Act of 1887). Facilities for carrying on this work are provided by the headquarters offices and laboratories located on the University campus, a branch station on Pencacola Street, Honolulu, and a farm at Poomoho, Oahu; a branch station at Makawao, Maui; and a branch station at Keauhou, Hawaii. Because the two major agricultural industries of the Territory of Hawaii—sugar and pineapple—support their own experiment stations, little attention is given to these crops. Emphasis is placed upon animal husbandry, poultry production, agronomy, and horticulture—fields which are considered extremely important in themselves. Investigations cover the physiology of plants and animals; diseases, insects, and parasites; soils and soil chemistry; human and animal nutrition; breeding and genetics; as well as other research in culture or production. Scientific facts discovered have broad application since both individual farmers and the large plantations may receive benefits. Many plantations operate ranches, dairies, orchards, and gardens which contribute to the subsistence of the plantation families and add to the total plantation income. These diversified agricultural undertakings, as well as those of independent ranchers and farmers, constitute the wider background of the activities of the Experiment Station.

The research of the Station has formed the basis for a rapid expansion of production of all food and feed crops, particularly through development and introduction of improved and adapted varieties of tomato, sweet corn, papaya, and other crops. Animal
feeding trials with dairy cattle, poultry, and hogs have shown how local feeds can be used profitably in lieu of imported feeds if necessary. Investigations with yeast, molasses, ensilage, and urea indicate how imported feeds may be replaced by or supplemented with local products—and this with profit to the producer. Information concerning culture, control of disease and insects, and especially the use of mechanical equipment in planting, cultivation, irrigation, and harvesting of the major food crops, is providing a great stimulus to production on a scale never before attempted in the Territory.
COOPERATIVE EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS

The Cooperative Extension Service in Agriculture and Home Economics, conducted jointly by the College of Agriculture and the United States Department of Agriculture, is devoted to the advancement of agriculture in Hawaii and to the improvement of rural home life. Funds for the maintenance of the Agricultural Extension Service are derived jointly from federal and territorial legislative appropriations.

The Agricultural Extension Service maintains personal contacts with the rural population through its field staff of county farm agents, home demonstration agents, and their assistants, with the assistance of the specialists at the territorial headquarters at the University of Hawaii. This staff, 63 in number, operates out of 10 offices located as follows:

On Oahu—Honolulu, Kanehoe, Wahiawa
On Maui—Kahului, Lahaina
On Kauai—Lihue
On Molokai—Kaunakakai
On Hawaii—Hilo, Kealakekua, Kohala

Improved farm and home practices are taught by means of practical demonstrations before University Extension clubs of men and women and 4-H clubs of boys and girls. This group instruction is supplemented by farm and home visits and personal conferences.

There are 302 boys' and girls' 4-H clubs with 4,707 members, and 147 groups of older men and women organized into University Extension clubs with approximately 2,325 members. Assisting in the club work are 625 voluntary leaders.

An important phase of Extension work is to demonstrate in a practical manner the results of scientific experiments conducted by the University of Hawaii Agricultural Experiment Station and by state experiment stations.

Bulletins and circulars containing varied, timely information pertaining to farming and rural home life are issued from time to time by the subject-matter specialists at the headquarters on the University campus, which also directs the activities of the agents in the field.

The Agricultural Extension Service in Hawaii is part of a nation-wide program established in 1914 and operating throughout the United States. Since its local inception in 1928, the efforts of the staff members have been largely directed toward developing a greater degree of self-sufficiency in the food economy of the Territory. To this end the home demonstration agents give particular attention to teaching the uses and nutritive values of Island-produced foods.

The Extension Service has for many years collected and published crop estimates and market statistics of value to commercial farmers. Assistance in keeping proper records for tax accounting has come to be a much-appreciated phase of this project. Emphasis is placed on grading and marketing of farm products.
Other important projects include demonstration of improved practices in soil conservation, vegetable production, fruit growing, swine raising, dairying, pasture improvement, poultry production, human nutrition, home management, home furnishing, and clothing.

Special emphasis is placed on assisting the families of plantation workers, where some men and women agents devote their entire time to home food supply, nutritious meals, home improvement, and related subjects.
ANNOUNCEMENT OF COURSES
FOR 1948-49

Courses are listed alphabetically by subject. Courses numbered 100 to 199 are lower division courses intended for freshmen and sophomores. Those numbered 200 to 299 are upper division courses intended for juniors and seniors, but open to graduate students when needed to complete a major field. Courses numbered 300 and above are for graduate students.

Following each course description are the number of credits and the semester in which the course is given. Thus, (3) I indicates a 3-credit first-semester course; (3) II, a 3-credit second-semester course; (3) I and II, a 3-credit course repeated the second semester; (3-3) Yr., a 3-credit year course; (Ar.), that the credits are variable and must be arranged with the instructor.

A schedule stating the time and place of meeting of all classes is issued prior to opening of each semester and the summer session.

AGRICULTURE

PROFESSORS WADSWORTH, BEAUMONT, HENKE, GUILLOU, ARMSTRONG, FRAZIER, SHERMAN, BICE; ASSOCIATE PROFESSOR STOREY; ASSISTANT PROFESSOR MAINLAND.

100 ORIENTATION COURSE. Lectures to acquaint the student with the fields of agriculture in Hawaii and to help select a major field of study. (0) I. MR. WADSWORTH.

151 ANIMAL HUSBANDRY. A general study of the important breeds of horses, cattle, sheep, and swine; and of their care and management. Lectures, assigned readings, and laboratory work. Laboratory fee $1.00. (3) I. MR. HENKE.

152 POULTRY HUSBANDRY. Elementary anatomy of digestive and reproductive systems, genetics of egg production, and principles of poultry husbandry. Two lectures and one laboratory period a week. Laboratory fee $1.00. (3) II. MR. BICE.

162 TROPICAL POMOLOGY. Origin, description, and cultural requirements of the principal fruit and nut crops of Hawaii. Two lectures and one laboratory period a week. Prerequisites: Botany 100; Chemistry 103; Zoology 100. Laboratory fee $1.00. (3) II. MR. STOREY.

164 TRUCK CROP PRODUCTION. Origin, description, and cultural requirements of the more important vegetable crops of Hawaii. Two lectures and one laboratory period a week. Prerequisites: Botany 100; Chemistry 103; Zoology 100. (3) I. MR. FRAZIER.

250 SOILS. Origin and physical properties of local soils. Texture, structure, and moisture relations. Three lectures and one laboratory period a week. Prerequisite: Chemistry 103. Laboratory fee $2.00. (4) I. MR. SHERMAN.
253 **DAIRYING.** The breeding, feeding, and management of dairy animals; care and sale of dairy products, with emphasis upon the handling of milk to insure good quality. Two lectures and one laboratory period a week. Laboratory fee $1.00. (3) II.

254 **PRINCIPLES OF GENETICS.** Fundamentals of genetics, including principles of Mendelian and Neo-Mendelian inheritance, physical basis of heredity, variation, and an introduction to biometric methods. Two lectures, one laboratory, and one conference period a week. Prerequisite: one year of biological science. (3) I. MR. MAINLAND.

256 **PRINCIPLES OF AGRONOMY.** Field crops; their distribution, character, culture, utilization, and improvement. Two lectures and one laboratory period a week. Prerequisites: Botany 100; Chemistry 103; Zoology 100. Laboratory fee $1.00. (3) II.

257 **FEEDS AND FEEDING.** Principles of feeding and their application to feeding farm and plantation animals. (3) I. MR. HENKE.

259 **POULTRY HUSBANDRY.** Special problems in poultry husbandry research; individual work. May be continued in second semester by consent of instructor. (Not offered 1948–49.) (Ar.) I.

261 **BEEF AND SWINE PRODUCTION.** The breeds, care, management, and feeding of beef cattle and swine, with particular reference to Hawaiian conditions. Two lectures and one laboratory or study period a week. Laboratory fee $1.00. (Not offered 1948–49.) (3) II.

267 **SOIL ANALYSIS.** Soil composition and fertility. Special attention to field trials, soil tests, and foliar diagnosis in determining fertilizer requirements. Prerequisite: Agriculture 250. (3) II. MR. SHERMAN.

268 **SOIL DIAGNOSIS LABORATORY.** Laboratory and field tests designed to determine the effects of deficiencies and toxicities of plant nutrients and the fertilizer requirements of soils. Prerequisites: Agriculture 250; credit or concurrent registration in Agriculture 267. Laboratory fee $2.00. (2) II. MR. SHERMAN.

271 **SCHOOL AND HOME GARDENING.** Designed to develop ability to conduct home and school gardens; study of fertilizers, insect control, and plant propagation. For prospective elementary school teachers. (2) I. MR. ARMSTRONG.

281 **AGRICULTURAL MACHINERY.** Principles of gasoline, Diesel, and electric motors and their application to agriculture; fuels; lubricants; care and maintenance of machines. Two lectures and one laboratory period a week. Prerequisite: junior standing. (3) I. MR. GUILLOU.

282 **ADVANCED AGRICULTURAL MACHINERY.** Tillage, planting, harvesting, and processing machines, with special reference to tropical conditions; costs; selection of equipment. Two lectures and one laboratory period a week. Prerequisite: Agriculture 281. (3) II. MR. GUILLOU.

291 **IRRIGATION PRACTICE.** Irrigation in its relation to crop production; development, distribution, and measurement of water; soil moisture and its effect on plant growth. Three lectures and one laboratory period a week. Prerequisite: junior standing. Laboratory fee $1.00. (4) II. MR. WADSWORTH.
298 SEMINAR IN ANIMAL NUTRITION. Recent investigations in animal nutrition; oral reports by students on special topics after a review of literature. Prerequisites: Agriculture 257; sufficient training in chemistry; consent of instructor. (1) II. MR. HENKE.

299 AGRICULTURE THESIS. Advanced individual work in field, laboratory, and library. (Ar.) STAFF.

300 DIRECTED RESEARCH. Directed research in (a) Genetics—MR. STOREY; (b) Soil Physics—MR. WADSWORTH; (c) Tropical Horticulture—MR. BEAUMONT. (Ar.) I and II.

301 ADVANCED SOIL TECHNOLOGY. Soil-weathering and soil-forming processes on the basis of modern pedologic principles. Prerequisites: graduate standing; consent of instructor. (3) I. MR. SHERMAN.

303 ADVANCED SOIL CLASSIFICATION. A study of the developments of soil classification systems. Special emphasis upon tropical soils and the soil-forming processes associated with them. Prerequisites: graduate standing; consent of instructor. (Not offered 1948-49.) (3) II. MR. SHERMAN.

ANTHROPOLOGY

ASSOCIATE PROFESSORS MASON, LUOMALA; LECTURER EMORY; GRADUATE ASSISTANT FRIED.

150 INTRODUCTION TO THE STUDY OF MAN. An introduction to the changing cultures and physical characteristics of preliterate peoples, as an aid to better understanding of current problems in human relations. (3) I and II. MR. MASON.

250 HAWAIIAN CULTURE. An introduction to native Hawaiian culture in all its aspects; mythology, tradition, history, religion, social organization, and material culture. Some attention also to language and physical type. (3) II. MR. EMORY.

252 PEOPLES OF THE PACIFIC. A survey of the peoples and cultures of the Pacific area—Polynesia, Micronesia, and Melanesia. (3) I. MR. EMORY.

253 MICRONESIA IN A MODERN WORLD. A cultural survey of the Marianas (including Guam), Carolines, Marshalls, and Gilberts, with attention to geographical and historical factors as they relate to current problems in Micronesia. (Not offered 1948-49.) (3) II. MR. MASON.

254 PEOPLES OF SOUTHERN ASIA. Ethnology and social organization of India, Southeast Asia, and Malaysia. Discussion of cultural diffusion and contact within the area. (3) I.

255 PEOPLES OF NORTHERN ASIA. Ethnology and social organization of Japan, China, Siberia, and Western Asia. Discussion of cultural diffusion and contact within the area. (3) II. MISS LUOMALA.
256 THE AMERICAN INDIAN. Indian tribes and culture areas of North and South America, including the civilizations of Mexico, Central America, and Peru. (Not offered 1948–49.) (3) I. MISS LUOMALA.

265 PRIMITIVE SOCIETY. Study of diverse types of social organization with the aim of a better understanding of human society. (Not offered 1948–49.) (3) II. MR. MASON.

266 CULTURE CONFLICT IN PACIFIC DEPENDENCIES. Existing native cultural patterns in American, British, Dutch, and French dependencies; problems raised by native-European interaction; cultural factors bearing upon administrative policies and programs. (3) II. MR. MASON.

267 PRIMITIVE RELIGION. Religious beliefs and practices in primitive society. Function of religion in society. Reading of monographs on religion of various tribes. (3) II. MISS LUOMALA.

268 PRIMITIVE ART. Survey of art forms and techniques of preliterate peoples of the world; types of design, relations of art forms and culture. (Not offered 1948–49.) (3) II. MISS LUOMALA.

269 FOLKLORE. Myth and legend in preliterate society. Function of myth in society. Development and spread of plot patterns. Reading of monographs on folklore of various tribes. (Not offered 1948–49.) (3) II. MISS LUOMALA.

299 DIRECTED READING. Prerequisite: consent of instructor. (Ar.) STAFF.

300 DIRECTED READING OR RESEARCH. Prerequisites: graduate standing; consent of instructor. (Ar.) STAFF.

ART

ASSOCIATE PROFESSOR NORRIS; ASSISTANT PROFESSORS ROBINSON, RANKIN, HORAN, COX; INSTRUCTOR CARPENTER.

Certain courses may be repeated for credit with the consent of the instructor.
The University reserves the right to retain any student work which may be needed for exhibition or for the Art Department files.

140 ART APPRECIATION. A course designed to give insight into the nature of artistic expression and its relationship to contemporary life, including industrial and commercial forms as well as the so-called fine arts. Lectures, demonstrations, shop and museum visits. (3) I and II. MISS ROBINSON, MR. COX, STAFF.

150–151 DESIGN. Elements of design and composition; study of line, mass, pattern, color. Practice in design organization to stimulate understanding and provide a basis for advanced work. Lectures and studio problems. This course, or the equivalent in experience, is prerequisite to all advanced study. (2–2) Yr. STAFF.

154–155 DRAWING. Freehand drawing in a variety of media, including pencil, pen and ink, charcoal, and wash. Lectures; drawing in studio and out-of-doors. This
course, or the equivalent in experience, is essential to advanced study. Studio fee, $1.00 each semester. (2-2) Yr. STAFF.

160 CERAMICS. Building pottery forms by hand; ceramic sculpture and decorative techniques. Limited to 20 students. Prerequisite: Art 150-151 or consent of instructor. Studio fee $10.00. (2) I and II. MR. HORAN.

161 CERAMICS. Continuation of 160. Emphasis on wheel throwing of pottery, and further work in field of student's choice. Introductory study of glazes and operation of kilns. Prerequisite: Art 160. Studio fee $10.00. (2) I and II. MR. HORAN.

171 ART IN THE HOME. Applications of design in terms of space, form, arrangement, function, and taste. Prerequisite: Art 150-151. (2) I. MISS RANKIN.

172 INTERIOR DECORATION. Design, function, and color of interiors in relation to space, use, and taste. Shop and museum excursions. Prerequisite: Art 150-151. (Art 171 is also recommended.) (Not offered 1948-49.) (2) I. MISS ROBINSON.

175 TEXTILE DESIGN. Individual problems in decoration, color, and texture related to fabrics. Prerequisite: Art 150-151. (2) II. MISS ROBINSON.

180-181 OIL PAINTING. Study of form, color, and design in oils. Prerequisites: Art 150-151 and 154-155, or consent of instructor. Studio fee $4.00 second semester. (2-2) Yr. MR. CARPENTER, MR. NORRIS.

250-251 SURVEY OF THE HISTORY OF ART. Origins and development of architecture, sculpture, and painting from prehistoric times to the present. Lectures with lantern slides. Visits to Honolulu Academy of Arts. Prerequisite: junior standing or consent of instructor. (2-2) Yr. MR. CARPENTER.

256 COMMERCIAL ART. Introduction to the application of design principles to commercial problems. Experimentation with lettering and commercial forms such as advertising layout, trade-marks, packaging, and posters. Prerequisites: Art 150-151 and 154-155. (2) I. MR. COX.

260 ADVANCED CERAMICS. Emphasis on chemistry of glazes. Continuation of work in field of student's choice. Designing for commercial methods of ceramic production. Prerequisite: Art 161. Studio fee $10.00. (2) I and II. MR. HORAN.

262 CREATIVE ART FOR THE UPPER ELEMENTARY YEARS. A workshop with situations and visual materials for creative thinking and working, involving individual and group use of tools, materials, and ideas. Limited to 30 students. Laboratory fee $1.00. (2) II. MISS ROBINSON.

263 CREATIVE ART FOR THE SECONDARY YEARS. Similar to Art 262, but with emphasis on the problems of the secondary years. Limited to 30 students. Laboratory fee $1.00. (2) II. MR. HORAN.

265 WATER COLOR PAINTING. The technique of water color. Studio and outdoor painting. Prerequisites: Art 150-151 and 154-155. (2) II. MR. COX.
268 LANDSCAPE PAINTING. Basic study of landscape in oils, including composition, color, and technique. Outdoor and studio painting. Prerequisite: Art 180–181. (2) II. MR. CARPENTER.

269 LIFE CLASS. Drawing from the model, with a view to establishing a foundation for the imaginative use of the human figure. Prerequisite: Art 154–155. Studio fee $4.00, to cover model expense. (2) I. MR. CARPENTER.

270 IMAGINATIVE DESIGN. Advanced design in two-dimensional forms related to the student's interest: ordinarily, painting or commercial design problems. Prerequisites: Art 150–151 and 154–155. (Not offered 1948–49.) (2) I. MISS ROBINSON.

273 DESIGN WORKSHOP. The creative use of three-dimensional design materials such as wood, metals, fabrics, or their combinations. Prerequisites: Art 150–151 and 154–155. (Art 270 is recommended.) Laboratory fee $5.00. (2) II. MISS ROBINSON.

274 COMMERCIAL ART FOR BUSINESS AND ECONOMICS STUDENTS. Evaluation of advertising layout, illustration, display, product design, and packaging. Discussion of production methods and technical procedures. Lectures, discussions, reports, and some laboratory work. (Not offered 1948–49.) (2) II. MR. CARPENTER.

275 ADVANCED COMMERCIAL ART. Commercial art from a professional designer's point of view. Projects related to the student's specialized interest. Prerequisites: Art 256 plus at least two of the following: Art 180–181, 265, 268, 269, 270, 273. (2) II. MR. COX.

280–281 ADVANCED OIL PAINTING. Continuation of Art 180–181. Studio fee $4.00 second semester. (2–2) Yr. MR. CARPENTER, MR. NORRIS.

299 DIRECTED WORK. (Formerly 286–287.) Criticism and guidance in work of the advanced student's own choosing in the following fields: (a) Drawing and Painting; (b) Applied Design; (c) Ceramics; (d) Commercial Art. Prerequisite: consent of department chairman and instructor concerned. Laboratory fee by arrangement for (c) only. (Ar.) I and II. STAFF.

BACTERIOLOGY

ASSOCIATE PROFESSOR HARTMAN; ASSISTANT PROFESSOR BUSHNELL; GRADUATE ASSISTANT MAJOCCHI.

140 APPLIED BACTERIOLOGY. A survey of the principles and practical applications of bacteriology. Two lectures a week. May not be used as prerequisite to other bacteriology courses. (2) I and II. MR. HARTMANN.

151 GENERAL BACTERIOLOGY. The physiology, culture, and differentiation of bacteria. Emphasis upon fundamentals. Recommended for students who are preparing for this or allied fields. Two lectures and two laboratory periods a week. Prerequisite: Botany 100 or Zoology 100; Chemistry 103. Desirable preparation: one semester of organic chemistry. Laboratory fee $6.00. (4) I and II. MR. BUSHNELL.
250 **ECONOMIC BACTERIOLOGY.** Certain analytic and synthetic functions of microorganisms are considered in relation to industrial processes, dairying, food, and soil. One lecture and one laboratory period a week. Prerequisites: Bacteriology 151; one semester of organic chemistry. Laboratory fee $3.00 each semester. (2–2) Yr. Mr. Bushnell.

260 **MEDICAL BACTERIOLOGY.** The role of microorganisms in the communicable diseases of man and animals, with emphasis upon modes of transmission, prophylactic, therapeutic, and epidemiological aspects. Recommended for students who are preparing for nursing, medicine, and public health work. Prerequisites: Bacteriology 151; one semester of organic chemistry. (3) I. Mr. Hartmann.

262 **LABORATORY IN MEDICAL BACTERIOLOGY.** A detailed study of the important bacteriological techniques concerned in the diagnosis of communicable diseases. Recommended for students who are preparing for technical laboratory positions. Three laboratory periods a week. Prerequisite: credit or concurrent registration in Bacteriology 260. Laboratory fee $6.00. (2) I. Mr. Hartmann.

264 **IMMUNOLOGY.** Types of immunity, sera, vaccines, and antitoxins. Technique of major diagnostic serological reactions. Two lectures and two laboratory periods a week. Prerequisite: Bacteriology 260. Laboratory fee $6.00. (3) II. Mr. Hartmann.

299–300 **BACTERIOLOGICAL PROBLEMS.** Pursuit of any advanced bacteriological problem; reading and laboratory work. May be repeated. Prerequisites: junior or senior standing; consent of instructor. Laboratory fee $6.00. (Ar.) I and II. Mr. Hartmann, Mr. Bushnell.

310 **DETERMINATIVE BACTERIOLOGY.** The systematic relationships among bacteria. One lecture a week, with laboratory hours arranged. Prerequisite: consent of instructor. Laboratory fee $3.00 each semester. (2–2) Yr. Mr. Bushnell.

**BOTANY**

**PROFESSORS ST. JOHN, CLEMENTS; ASSOCIATE PROFESSORS ENGARD, LOHMAN; ASSISTANT PROFESSORS BRITTEN, COTTAM; GRADUATE ASSISTANTS MAYSILLES, KRAUSS, LANE.**

100 **GENERAL BOTANY.** Survey of the plant kingdom, with emphasis upon structure in relation to function, function in relation to habitat, habitat and heredity in relation to evolution, attributes of plant life in relation to man. This course and Zoology 100 comprise an introduction to the biological sciences. Two lectures and two laboratory periods a week. Laboratory fee $5.00 each semester. (4) I and II. Mr. St. John, Staff.

102 **SYSTEMATIC BOTANY OF FLOWERING PLANTS.** Native and exotic Hawaiian flowering plants, their classification, history, distribution, use; synopsis of monocotyledons; preparation of an herbarium. One lecture and two laboratory periods a week. Prerequisite: Botany 100. Laboratory fee $3.00. (3) I. Mr. St. John.
103 **Evolution.** Evolution in the plant kingdom; the simple ancestral plants; the lines of development to the complex higher plants. The rational basis for evolutionary hypotheses; the place of evolution in science and human thought. (2) I and II. **Mr. Lohman.**

105 **Economic Plants of Hawaii and Polynesia.** The cultivated and wild plants used in ancient and modern times by the Hawaiians and Polynesians. Nature of these economic plants and their use for food, drink, fabric, dye, medicine, and utensils. (2) I and II. **Mr. St. John.**

155 **Plant Growth.** The nature of seeds; nutrition of the embryo plant during germination of the seed; development of adult from embryonic structures; intake of raw materials; manufacture of food by the adult plant. (2) II.

158 **Mycology.** Introduction to the structure, classification, and physiology of the major groups of fungi. Collection and identification of representative Hawaiian fungi. Two lectures and one laboratory period a week. Prerequisite: Botany 100. Laboratory fee $4.00. (Alternate years; not offered 1948–49.) (3) I. **Mr. Lohman.**

160 **Flower and Tree Identification.** A non-technical course in the identification of the common cultivated plants and weeds of the Territory. (2) II. **Mr. St. John.**

161 **Plant Geography.** Plant distribution throughout the world; vegetation of forests, grasslands, deserts, tundra, mountains, and oceans; special attention to origin, development, ecology, and economic importance. (2) I. **Mr. St. John.**

162 **Structure of Economic Plants.** A study of the anatomy of the important field and garden crop plants representative of Hawaiian agriculture. Prerequisite: Botany 100. One lecture and two laboratory periods a week. Laboratory fee $5.00. (Alternate years; not offered 1948–49.) (3) II. **Mr. Britten.**

173 **Elementary Plant Physiology.** Introduction to plant physiology; osmosis, absorption of water, transpiration, mineral utilization, photosynthesis, storage, digestion, respiration, growth, photoperiodism. Three lectures and one laboratory period a week. Prerequisites: Botany 100; Chemistry 103. Laboratory fee $5.00. (4) II. **Mr. Engard.**

202 **Taxonomy and Exploration.** Taxonomy of Hawaiian vascular plants, their occurrence and use; account of botanical exploration of Hawaii; literature of Pacific floras. One lecture and two laboratory periods a week. Prerequisite: Botany 102. Laboratory fee $3.00. (3) II. **Mr. St. John.**

253 **Plant Ecology.** Plants in relation to environment, the climatic and geographic factors; plant sociology, the origin, development, structure, and succession of plant societies. Two lectures and two laboratory periods a week. Prerequisite: Botany 102. Laboratory fee $3.00 (4) II. **Mr. Cottam.**

254 **Advanced Taxonomy.** Synopsis of lower dicotyledons from Piperaceae to Rosaceae, with laboratory study of important families; plant distribution and independent identification of collections. Prerequisite: Botany 102. (1) I. **Mr. St. John.**
258 ADVANCED MYCOLOGY. Study of the taxonomy of selected groups of fungi. Consideration of recent and current work on morphology, taxonomy, and physiology of the fungi. Two lectures and one laboratory period a week. Prerequisite: Botany 158. Laboratory fee $4.00. (Alternate years; offered 1948–49.) (3) I. MR. LOHMAN.

263 PLANT PATHOLOGY. A systematic study of plant diseases. Development of plant pathology; classification of plant diseases; relation of diseases to the environment; methods of investigating plant diseases; symptoms, etiology, and control measures, with special reference to Hawaii. Two lectures and one laboratory period a week. Prerequisites: Botany 100 and consent of instructor. Laboratory fee $5.00. (Alternate years; not offered 1948–49.) (3) II. MR. LOHMAN.

264 PLANT PATHOLOGY TECHNIQUE. Methods for the study of plant diseases: isolation, culture, inoculation; planning and interpretation of experiments. One lecture and two laboratory periods a week. Prerequisite: Botany 263. Laboratory fee $5.00. (Alternate years; offered 1948–49.) (3) II. MR. LOHMAN.

268 PLANT MICROTECHNIQUE. Principles and methods of preparing plant materials for histological and cytological study: paraffin and smear techniques. One lecture and two laboratory periods a week. Prerequisite: Botany 100. Laboratory fee $8.00. (Alternate years; offered 1948–49.) (3) II. MR. BRITTEN.

269 PLANT ANATOMY. Structure of vascular plants; origin and differentiation of tissues; relation of structure to function. One lecture and two laboratory periods a week. Prerequisites: Botany 100 and 268. Laboratory fee $5.00. (Alternate years; offered 1948–49.) (3) I. MR. BRITTEN.

273 ADVANCED PLANT PHYSIOLOGY–BIOPHYSICS. Intensive work on physical aspects of plant physiology: nature of protoplasm; water relations; mineral absorption and utilization. Prerequisites: Botany 173; Chemistry 149; Physics 102. (Alternate years; offered 1948–49.) (3) I. MR. COTTAM.

274 LABORATORY TECHNIQUE IN BIOPHYSICS. Parallels Botany 273 and may be taken with it, but is not required. Two laboratory periods a week. Laboratory fee $5.00. (Alternate years; offered 1948–49.) (2) I. MR. COTTAM.

275 ADVANCED PLANT PHYSIOLOGY–BIOCHEMISTRY. Intensive study of chemical aspects of plant physiology: photosynthesis; nitrogen assimilation; fat metabolism, translocation and storage; enzymes; respiration; hormones. Prerequisites: Botany 173; Chemistry 149; Physics 102. (Alternate years; not offered 1948–49.) (3) II.

276 LABORATORY TECHNIQUE IN BIOCHEMISTRY. Parallels Botany 275 and may be taken with it, but is not required. Two laboratory periods a week. Laboratory fee $5.00. (Alternate years; not offered 1948–49.) (2) II.

279 MORPHOLOGY OF CRYPTOGAMIC PLANTS. Comparative morphology and classification of the major groups of algae, bryophytes, and pteridophytes, and their biological relations. Two lectures and one laboratory period a week. Prerequisite: Botany 100. Laboratory fee $3.00. (Alternate years; not offered 1948–49.) (3) I. MR. LOHMAN.
280 CYTOGENETICS. The cytological basis of plant heredity. Prerequisites: Botany 100; Agriculture 254. Two lectures and one laboratory period a week. Laboratory fee $4.00. (Alternate years; not offered 1948–49.) (3) I. MR. BRITTEN.

281 CYTOLOGY. The structure of the cell, its nucleus and cytoplasm. Prerequisite: Botany 100. One lecture and two laboratory periods a week. Laboratory fee $4.00. (Alternate years; offered 1948–49.) (3) I. MR. BRITTEN.

282 BIOLOGICAL PHOTOGRAPHY. Photographic materials and methods; photography outdoors and in the laboratory; making lantern slides, photomicrographs and scientific illustrations. Two lectures and one laboratory period a week. Students must have cameras. Prerequisites: inorganic chemistry; two semesters of biological science; consent of instructor. Laboratory fee $8.00. (3) II. MR. BRITTEN.

299 BOTANICAL PROBLEMS. Pursuit of any advanced botanical problem; reading and laboratory work. May be repeated. Prerequisite: consent of instructor. Laboratory fee $2.00. (Ar.) I and II. STAFF.

300 BOTANICAL RESEARCH. Prerequisites: graduate standing; consent of instructor. Laboratory fee $2.00 each semester. (Ar.) STAFF.

310 BOTANICAL SEMINAR. Presentation of reports upon research, or reviews of current botanical literature. Recommended for seniors and graduate students and may be repeated. (1) I and II. STAFF.

351 PLANT PHYSIOLOGY SEMINAR. Discussion of topics of particular interest to the group. May be repeated. Prerequisite: consent of instructor. (1) II. MR. ENGARD.

365 TAXONOMY OF THE DICOTYLEDONS. A synoptic treatment of the dicotyledons, from the Leguminosae to the Umbelliferae, with reference to their gross morphology, economic value, and distribution. Prerequisite: Botany 102. (Alternate years; not offered 1948–49.) (1) II. MR. ST. JOHN.

367 TAXONOMY OF THE HIGHER DICOTYLEDONS. A synoptic treatment of the higher dicotyledons from the Ericaceae to the Compositae, with reference to their gross morphology, economic value, and distribution. Prerequisite: Botany 102. (Alternate years; offered 1948–49.) (1) II. MR. ST. JOHN.

BUSINESS

PROFESSOR CAMERON; ASSOCIATE PROFESSORS HOEBER, GLOVER; ASSISTANT PROFESSORS KRAEMER, KIRKPATRICK, ADLER, TILLEY; LECTURER LUKE; INSTRUCTOR VAALER.

150-151 ELEMENTARY ACCOUNTING. Fundamental principles, including the accounting problems of single proprietorships, partnerships, and corporations. Two lectures and one laboratory and quiz period a week. Prerequisite: sophomore standing in the department or consent of instructor. Required of all Business majors. (4–4) Yr. MR. GLOVER, MR. ADLER.
160–161 ELEMENTARY BUSINESS LAW. First semester: law as an agency of social control; nature, sources, and growth of the law; fundamental legal conceptions; law of contracts. Second semester: law of private property, sales, negotiable instruments, security devices, fair trade, and labor. Prerequisite: sophomore standing. (3-3) Yr. MR. HOEBER, MR. VAALER.

170 TECHNIQUE OF TYPEWRITING. An intensive course in advanced typewriting. Prerequisites: sophomore standing in Economics and Business or major in Education with a commercial work teaching field; consent of instructor; a placement examination. (2) I. MRS. TILLEY.

177 TECHNIQUE OF SHORTHAND. Dictation and transcription; shorthand and typewriting skills combined; continued development of a vocabulary. Prerequisite: sophomore standing in Business or major in Education with a commercial work teaching field and consent of instructor. (2) I. MRS. TILLEY.

250 INTERMEDIATE ACCOUNTING. Financial statements: form, content, and such related problems as depreciation, depletion, valuation of assets, and the capital structure of corporations. Two lectures and one laboratory period a week. Prerequisites: C or better in Business 150–151 and Economics 150–151 or consent of instructor. (3) I. MR. GLOVER.

251 ADVANCED ACCOUNTING. Continuation of general accounting, including the more specialized phases, such as special reports, consolidated statements, accounting problems and procedures for installment sales, consignments, estates and trusts, receiverships, and branch agencies. Prerequisite: C or better in Business 250 or consent of instructor. (3) II. MR. GLOVER.

254 COST ACCOUNTING. Discussion of such aspects of cost accounting as sources of costs, cost units, cost gathering, and use of cost data. Prerequisites: credit or concurrent registration in Business 250 and Economics 150–151 or consent of instructor. (3) I. MR. GLOVER.

255 ANALYSIS OF FINANCIAL STATEMENTS. Analysis of the balance sheet and profit and loss account from the standpoint of the data to be derived from them bearing on the financial standing of business units as investment and credit possibilities. Prerequisites: Business 150–151 and Economics 150–151 or consent of instructor. (3) II. MR. GLOVER.

256 INCOME TAX PROBLEMS. Study of the federal and territorial income tax laws and related accounting problems; individual, fiduciary, partnership, and corporation returns are prepared. Prerequisites: Business 150–151 and Economics 150–151 or consent of instructor. (3) I. MR. GLOVER.

257 MERCHANDISE ACCOUNTING AND CONTROL. Principles and methods in accounting for the purchase and sale of commodities at retail and wholesale, with special emphasis on inventory control, collection and allocation of operating costs on a functional basis, and budgetary control. Prerequisites: Business 150–151 and Economics 150–151 or consent of instructor. (3) II. MR. ADLER.
259 **OFFICE ORGANIZATION AND MANAGEMENT.** Office functions; personnel; distribution of authority and responsibility; employment; compensation; efficiency measurement; procedure and layout; indexing and filing. Prerequisites: Business 150–151; Economics 150–151. (3) II. MRS. TILLEY.

263 **PERSONNEL MANAGEMENT.** Policies and practices used by management to promote efficiency in production and harmonious labor relations. Characteristics of an efficient supervisory organization; employee maintenance and control; foremanship training and control; apprenticeship and training methods; pension, insurance, and thrift plans; job analysis and motion study; working conditions; bonus, premium plans, and wage incentives. Prerequisite: Economics 150–151 or consent of instructor. (3) II.

264 **PRINCIPLES OF BUSINESS.** Choosing goods to handle, time to enter business, location, size, and legal form of organization; selecting, handling, and promoting executives; choosing selling policies; promoting good public relations. Prerequisite: Economics 150–151 or consent of instructor. (3)

265 **CORPORATION FINANCE.** Determination of capital requirements; sources and devices used to procure capital; marketing securities; control of capital disbursements; credit and income. Prerequisites: Business 150–151 and Economics 150–151 or consent of instructor. (3) II. MR. CAMERON.

266 **INVESTMENTS AND INVESTMENT BANKING.** Economic theory and tests of investment; investment credit analysis; mathematics of investment; tools of investment; types of investment institutions and their functioning. Prerequisites: Economics 150–151 and Business 150–151 or consent of instructor. (3) II. MR. LUKE.

267 **BUSINESS CYCLES AND BUSINESS FORECASTING.** Analysis of the business cycle and proposed remedies; assumptions, methods, and statistical data used in business forecasting; forecasting services; applicability of forecasts to specific cases. Prerequisite: Economics 150–151. (3) II. MR. KIRKPATRICK.

270–271 **PRINCIPLES OF MARKETING.** A study of consumption followed by a general survey of the marketing structure, emphasizing marketing functions and channels, market analysis and research, and marketing policies. Prerequisites: Business 150–151 and Economics 150–151 or consent of instructor. (3–3) Yr. MR. KRAEMER.

272 **ADVANCED SECRETARIAL TRAINING.** A study of the work of the secretary, including letter forms and letter writing, business ethics, office procedures, filing, and transcription. Prerequisites: senior standing in Business or consent of instructor. (2) II. MRS. TILLEY.

276 **ECONOMICS OF RETAIL MERCHANDISING.** Buying habits of retail customers; history of retailing; store organization and management; sales promotion. Prerequisite: Economics 150–151 or consent of instructor. (3) I. MR. LUKE.

280 **SALES MANAGEMENT.** Types of salesmanship; buying motives; personal sales methods; product; market; marketing methods; sales force; sales promotion; and adjustment of product to market. Prerequisites: Economics 150–151 and credit or concurrent registration in Business 270–271 or consent of instructor. (3) II. MR. KRAEMER.
282 BUSINESS STATISTICS. A study of statistical techniques and their application to business, including sources of data, tabulation, charting, averages, dispersion, sampling, index numbers, analysis of time series, and correlation. Prerequisite: Economics 150–151 or consent of instructor. (3) II. MR. KRAEMER.

287 ECONOMICS OF BUSINESS ORGANIZATION. A study of the individual firm, partnership, and corporation from both the economic and legal points of view; procedure of formation; structure; history and present importance; advantages and disadvantages from the standpoints of the private businessman and the public. Prerequisites: Business 160–161 and Economics 150–151 or consent of instructor. (3) II. MR. HOEBER.

299 DIRECTED READING. Prerequisite: consent of instructor. (Ar.) STAFF.

300 DIRECTED READING OR RESEARCH. Prerequisites: graduate standing; consent of instructor. (3–3) Yr. STAFF.

CHEMISTRY

VISITING PROFESSORS BAKER, ALYEA; PROFESSORS L. BILGER, E. BILGER; ASSISTANT PROFESSORS SMITH, NAUGHTON; INSTRUCTORS ZEITLIN, COX; GRADUATE ASSISTANTS FRODYMA, TANADA, MALMQVIST, TAMURA, NAGASAKO.

100 CHEMISTRY. A general course designed to give a cultural survey of the science of chemistry, inorganic and organic, with emphasis upon principles, applications, and significance. Demonstrations. Not a prerequisite to any other chemistry course. (3–3) Yr. MR. BAKER.

103 GENERAL CHEMISTRY. A comprehensive treatment of chemistry with emphasis upon fundamental laws, principles, and methods. Three lectures and one laboratory period a week. Laboratory fee $10.00 each semester. Prerequisite: a year of high school algebra. (4–4) Yr. MRS. BILGER, MR. ALYEA, MR. BAKER, MR. SMITH, MR. NAUGHTON, MISS COX.

149 ORGANIC CHEMISTRY. The chemistry of the carbon compounds, their classification and structure; electronic reactions; training in techniques of organic laboratory methods. Three lectures and one laboratory period a week. Prerequisite: Chemistry 103. Laboratory fee $12.00 each semester. (4-4) Yr. MRS. BILGER, MR. ZEITLIN.

150 QUALITATIVE ANALYSIS. Systematic analysis covering the detection of common basic and acid ions by macro and semi-micro methods; theory of analytical procedures. Two lectures and two laboratory periods a week. Prerequisite: Chemistry 103. Laboratory fee $11.00. (4) I. MR. SMITH.

159 SURVEY OF ORGANIC CHEMISTRY. The chemistry of aliphatic and aromatic organic compounds, their structure and classification; emphasis upon fats, carbohydrates, and proteins. Three lectures and one laboratory period a week. Prerequisite: Chemistry 103. Laboratory fee $12.00. May not be taken by majors in Chemistry or by students expecting to take further organic chemistry. (4) I and II. MR. BILGER, MR. ZEITLIN.
CHEMISTRY 97

160 CHEMICAL CALCULATIONS. An intensive course in the solution of problems based upon the fundamental laws and definitions of chemistry; computations and errors. Prerequisites: Chemistry 150; credit or concurrent registration in Mathematics 152 advised. (2) II. MR. BAKER.

230 QUANTITATIVE ANALYSIS. Principles and practice of gravimetric and volumetric analysis, colorimetric and electrometric determinations. Two lectures and two laboratory periods a week. Prerequisites: Chemistry 150; Mathematics 151; Mathematics 152 advised. Laboratory fee $11.00 each semester. (4-4) Yr. First half repeated second semester. MR. NAUGHTON.

232 BIOCHEMISTRY. A study of the chemistry of biological systems, animal and plant; laboratory techniques of handling and studying biological materials. Three lectures and one laboratory period a week. Prerequisite: first semester of Chemistry 149 or 159. Laboratory fee $9.00. (4) I. MR. BILGER.

236 AGRICULTURAL CHEMISTRY. A quantitative analytical course in the chemistry of the products and materials of Hawaiian agriculture, including sugar cane, pineapples, soils, fertilizers, stock feeds, insecticides; poultry; and dairy products. Special emphasis upon modern instrumental methods. One lecture and two laboratory periods a week. Prerequisites: first semester of Chemistry 149 or 159; one semester of Chemistry 230; Chemistry 232. Laboratory fee $10.00. (3) II. MR. SMITH.

238 ADVANCED INORGANIC CHEMISTRY. An advanced study of the less familiar elements; the periodic classification; non-aqueous solvents; coordination compounds. Prerequisite: credit or concurrent registration in Chemistry 230. (Alternates with 271.) (3) I. MR. ALYEA.

249 ADVANCED ORGANIC CHEMISTRY. A study of organic type reactions and syntheses illustrated by laboratory preparations requiring special techniques. Two lectures and two laboratory periods a week. Prerequisites: Chemistry 149 and 230. Laboratory fee $12.00. (4) I.

250 ORGANIC ANALYSIS. Qualitative and quantitative organic analysis by macro, semi-micro, and micro methods. Combustions and sealed-tube procedures. Two lectures and two laboratory periods a week. Prerequisites: Chemistry 149 and 230. Laboratory fee $12.00. (4) II. MR. NAUGHTON.

255 PHYSICAL CHEMISTRY. An advanced course in theories and principles of chemistry; physico-chemical laboratory procedures; modern instrumental methods. Three lectures and one laboratory period a week. Prerequisites: Chemistry 149 and 230; Mathematics 152, and 153, 154 advised; Physics 102. Laboratory fee $8.00 each semester. (4-4) Yr. MR. BILGER.

266 ADVANCED BIOCHEMISTRY. Theory and practice of quantitative methods of analysis of biological materials for purposes of clinical diagnosis and prognosis; chemical changes in the pathological human organism. One lecture and two laboratory periods a week. Prerequisites: Chemistry 232; one semester of Chemistry 230. Laboratory fee $9.00. (3) II. MR. BILGER.
271 **COLLOIDAL CHEMISTRY.** An advanced study of the theory of the colloidal state of matter; applications in agriculture, medicine, biology, and industry. Prerequisite: credit or concurrent registration in Chemistry 230. (Alternates with 238; not offered 1948–49.) (3) I.

281 **HISTORY OF CHEMISTRY.** Evolution of the science of chemistry from the earliest times, through alchemy, to the present; emphasis upon achievements leading to new basic ideas; the personalities of the great chemists. Prerequisites: Chemistry 149 or 159; credit or concurrent registration in Chemistry 230. (3) I. MRS. BILGER.

295 **CHEMICAL LITERATURE.** Systematic use of the journals, texts, handbooks, dictionaries, tables, abstracts, and government literature of chemistry; special library problems. One lecture and one library period a week. Prerequisite: credit or concurrent registration in Chemistry 230. May be repeated. (2) I and II.

300 **DIRECTED RESEARCH.** Research in pure and applied chemistry. Prerequisites: senior or graduate standing and approval of the chairman of the department. Laboratory fee $5.00 per credit. (Ar.) MRS. BILGER, MR. BILGER, MR. ALYEA.

338 **ATOMIC STRUCTURE AND NUCLEAR CHEMISTRY.** A detailed study of atomic structure from the quantum mechanical viewpoint; isotopes; nuclear reactions and atomic energy. Prerequisites: credit or concurrent registration in Chemistry 255; Mathematics 154; Physics 102. (Alternates with 358.) (3) II. MR. ALYEA.

355 **THEORETICAL ORGANIC CHEMISTRY.** Electronic and quantum theories of the character of the chemical link; resonance; bond types; new physical methods of investigation of structure; electronic equations. Prerequisites: Chemistry 249; credit or concurrent registration in Chemistry 255. (2) n. MRS. BILGER.

358 **CHEMICAL THERMODYNAMICS.** The first, second, and third laws of thermodynamics; thermodynamic functions in chemical systems. Prerequisites: credit or concurrent registration in Chemistry 255; Mathematics 154; Physics 102. (Alternates with 338; not offered 1948–49.) (3) II.

360 **SEMINAR.** Papers and discussions on recent advances in chemistry. One two-hour period a week. Prerequisites: senior or graduate standing, or consent of instructor. May be repeated. (1–1) Yr. MRS. BILGER.

**CHINESE**

**ASSOCIATE PROFESSOR TAAM; INSTRUCTOR CHONG.**

100 **ELEMENTARY CHINESE.** Study of some 500 basic Chinese characters; grammar and sentence construction; reading of simple Chinese stories. (3–3) Yr. MRS. CHONG.

101 **INTERMEDIATE CHINESE.** Study of 1,200 basic Chinese characters; selected reading of short essays; composition. (3–3) Yr. MRS. CHONG.

200 **THIRD-YEAR CHINESE.** Reading of newspapers and classics; composition and translation. (3–3) Yr. MRS. CHONG.
293–294 METHODS AND BIBLIOGRAPHY IN CHINESE STUDIES. Study of the main fields of Chinese research, the special methods evolved, and the principal sources of bibliographical information. Prerequisite: junior standing. (3–3) Yr. Mr. TAAM.

CLASSICS

ASSOCIATE PROFESSOR MAGUIRE.

100 ELEMENTARY LATIN. Vocabulary and grammar, with reading and writing of simple Latin. (3–3) Yr. Mr. MAGUIRE.

101 INTERMEDIATE LATIN. Review of grammar; reading and composition. (3–3) Yr. MR. MAGUIRE.

106 ELEMENTARY GREEK. Fundamentals of Greek grammar; reading of short excerpts from classic Greek authors. Prerequisite: consent of instructor. (Not offered 1948–49.) (3–3) Yr. MR. MAGUIRE.

250–251 CLASSICAL CIVILIZATION. A survey of the major aspects of Greek and Roman civilizations, with special attention to their influences on Western culture. The first semester is devoted to Greek civilization; the second, partly to Greek, but mainly to Roman. Students may enter the second semester. (Not offered 1948–49.) (3–3) Yr. MR. MAGUIRE.

260–261 CLASSICAL LITERATURE. The major writers of Greece and Rome in English translation. The first semester is devoted to Greek literature; the second, partly to Greek, but mainly to Roman. Students may enter the second semester. (3–3) Yr. Mr. MAGUIRE.

270–271 GREEK HUMANISM. Basic Greek thought in the fields of ethics, politics, and education. Reading (in English) and discussion of Plato's Gorgias, Republic, Statesman, and Laws, and Aristotle's Ethics and Politics. Students may enter the second semester. (3–3) Yr. MR. MAGUIRE.

280–281 GREEK DRAMA. Reading (in English) and discussion of all the extant plays of Aeschylus and Sophocles, and of selected plays of Euripides, Aristophanes, and Menander. Students may enter the second semester. (Not offered 1948–49.) (3–3) Yr. Mr. MAGUIRE.

DENTAL HYGIENE

INSTRUCTOR BICKERTON; LECTURERS ARAUJO, BAKIN, CONNER, DAVE, GLYNN, MAJOSKA, SMITH.

The following Dental Hygiene courses may be elected by students in other colleges and curriculums: DH 251, 252, 256, 258, 260, 262, 264, 265.

200 TOOTH MORPHOLOGY. Designed to provide the student with an opportunity to carve a full complement of models of anterior and posterior teeth showing general form, cusps, planes, and angles. (1) I. MRS. BICKERTON.
201 Dental Hygiene Education. Methods, materials, and visual aids used in teaching dental health; reading in the field of health education; and practice in educational talks for various grade levels. (1) II. Mrs. Bickerton.

235 Dental Operative Technique. Instruction and practice work on manikin heads in the technique of instrumentation and polishing. Training in the proper manipulation of instruments for the removal of accretions, deposits, and stains, and the use of all instruments in the field of dental hygiene. (2) II. Mrs. Bickerton.

251 Dental Anatomy. A study of the anatomical and chemical structure of the teeth, anatomy of bones forming the oral cavity, soft palate, throat, muscles of mastication, lips, tongue, floor, and other boundaries of the oral cavity. (3) I. Mr. Smith.

252 Dental Prophylaxis. A study of the prophylactic treatment of the mouth, with special attention to those measures which can be employed to prevent or arrest dental caries and adjacent-tissue degeneration. The tooth brush, its selection, sterilization, and use are also considered. (1) I. Mr. Conner.


256 Dental Caries. A consideration of the causation, progress, and sequelae of caries. Preventive measures. Composition, location, differentiation, and causes of accretions, deposits, and stains found upon the teeth; their harmful results and preventive measures. (2) II. Mr. Conner.

258 Dental Histology. A course embracing the sequential steps in the formation of the primary tissues. Special consideration will be given to the study of the origin and classification of dental tissues, enamel, dentine, cementum, pulp, and all the soft tissues of the oral cavity. (1) II. Mr. Dawe.


262 Materia Medica. A study of the derivation and effects of the drugs most commonly used in dentistry. A general discussion of the relative values of germicides, antiseptics, and disinfectants; analysis of the formulae of dentifrices and mouthwashes. (2) I. Mr. Majoska.

264 Orthodontics. A lecture course giving its history, the basic principles, normal occlusion of the teeth, malocclusion of the teeth; case analysis for classifications; the etiology of malocclusion; the process of tooth eruption; and growth of the denture, cranium, and face. (1) II. Mr. Glynn.

265 Radiography. A lecture, demonstration, and practice course briefly covering elementary electricity, the theory and development of X-ray and X-ray apparatus, and the technique for taking and processing dental X-ray films with practice in operating X-ray equipment. (1) II. Mr. Araujo.
297 Field Problems in Dental Hygiene. Consideration of the varied types of problems met in field practice: adjustment to schools, principals, and teachers; community relations; travel, living accommodations, and professional ethics. (1) II. Miss Baukin.


ECONOMICS

Professors Shoemaker, Cameron, Roberts; Associate Professor Hoebner; Assistant Professors Kraemer, Kirkpatrick; Graduate Assistants Ahn, Finn.

Economics 150–151 is prerequisite to all other courses in Economics except Economics 140 and 223–224.

140 Introduction to Economics. A descriptive analysis of basic economic institutions and a study of the elementary principles underlying consumption, production, exchange, and distribution. Not open to majors in Economics and Business. Credit cannot be obtained in both this course and Economics 150–151. (3) I and II. Mr. Hoebner.

150–151 Principles of Economics. Principles underlying consumption, production, exchange, and distribution of wealth; analysis of important current economic problems. Prerequisite: sophomore standing or consent of instructor. (3–3) Yr. Mr. Hoebner, Mr. Kirkpatrick.

223–224 History of Economic Institutions. Economic growth of man; evolution of urban life; agricultural changes; labor and manufacturing systems; transportation, trade, money, banking, and credit developments; emphasis on causes and effects of changes. Prerequisite: junior standing or consent of instructor. (3–3) Yr. Mr. Cameron.

251 Economic Problems of Europe. An analysis of the changing economic institutions and practices in western Europe. Comparison of European principles and techniques with the American pattern of production and distribution. Problems in the interwar period, the impact of World War II, and postwar readjustments. (3) I. Mr. Kraemer.

252 Economic Problems of the Far East. A study of the historic development of the economic systems of Japan, Korea, and China and an analysis of their economic problems. Special consideration is given to the economic effects of the war and to a critical evaluation of postwar economic policies. (3) I. Mr. Shoemaker.

254 The Economic System of Soviet Russia. The economic history and problems of Russia, including a descriptive analysis of the Soviet economy in operation and a critical evaluation of its effectiveness. Attention also is given to the effects of World War II on the Soviet economy, to economic developments in Siberia, and to Russia's economic relations with the Far East. (3) II. Mr. Shoemaker.
256 Money, Credit, and Prices. Nature, history, and kinds of money; characteristics of credit; monetary system of the United States; monetary standards; value of money; relation of money and credit to prices. (3) I. Mr. Kirkpatrick.

257 Banking. Nature and history of banking; the banking system of the United States, including commercial banks, trust companies, savings banks, and related savings institutions. Required of all majors in Economics and Business. Prerequisite: Economics 256 or consent of instructor. (3) II. Mr. Kirkpatrick.


263 International Finance. International loans and investments; the instruments, techniques, and organization of foreign exchange; varying monetary standards and foreign exchange; manipulation of exchange by governments; recent developments in international finance. Prerequisites: credit or concurrent registration in Economics 256 and 257. (3) II. Mr. Kirkpatrick.

265 Principles and Problems of Economic Control. Historic development, principles, and objectives of governmental control in the economic sphere; an evaluation of such controls as related to the war and to postwar economic problems, including a critical comparison of controlled and competitive economic systems. (3) II. Mr. Shoemaker.

270 Public Utilities. The economic nature and history of public utilities, excluding railroads, followed by a critical discussion of their control by the state. (3) I. Mr. Cameron.

273 Ocean Transportation. Economic characteristics, history, and vehicles of ocean transportation; services, organization, and rate-making theories; practices of ocean carriers; subsidies and government control. (3) II. Mr. Cameron.

276 Trusts and Industrial Combinations. The trend toward concentration of control; intercorporate and other devices; evaluation of economic effects; government regulation. (3) I. Mr. Cameron.

277 Economics of Machine Industry. A study of the physical characteristics of machines; the place of science and invention in their evolution; the history of their use; followed by an analysis of their adaptability to specific industries, the nature of their assistance in production, and the effects of their use on costs, goods, management, mental processes, labor, and international relationships. (3) II. Mr. Cameron.

279 Distribution of Wealth and Income. Amount, composition, ownership, and distribution of the wealth of the United States, followed by a study of the social income, emphasizing distribution and the remedies offered for the elimination of inequities. (3) II. Mr. Cameron.

281 Labor Problems. A study of wages, hours, working conditions, employment, superannuation, substandard workers, and other important problems common to all labor. Special attention is given to an analysis of the fundamental factors affecting wage levels. (3) I. Mr. Roberts.
282 LABOR ORGANIZATION AND INDUSTRIAL RELATIONS. Labor problems under unionism: types of unions; evolution of unions; membership; financing; methods used to obtain objectives; methods used by employers in dealing with them; theory and procedures of collective bargaining; economic effects of policies and practices emphasized. (3) II. Mr. Roberts.

283 LABOR LEGISLATION. Historic development of labor legislation; its adjudication and administration with emphasis on economic implications. Special attention is given to current political and legal issues directly related to labor legislation. (3) I. Mr. Roberts.

285 INTERNATIONAL TRADE. The nature and principles of international economic relations; theory of commodity trade; commercial policies and trade agreements; practical aspects of exporting and importing; problems of postwar trade adjustments. (3) I. Mr. Kraemer.

291 AGRICULTURE ECONOMICS. A survey of the economic principles and problems of agriculture; special attention is given to such aspects as resources, tenure, size of enterprise, farm credit, marketing, farm labor, prices, taxation, and farm incomes. (3) I. Mr. Kraemer.

292 LAND ECONOMICS. Fundamentals of regional planning organization and planning techniques; city development and redevelopment; land utilization; land subdivision; housing; zoning; real estate marketing, valuation, and finance; land tenure; and land classification. (3) II. Mr. Kraemer.

296 ECONOMIC THOUGHT AND ADVANCED ECONOMIC THEORY. A general survey of economic thought from Adam Smith to the present time, with special emphasis on the theory of value and distribution. Prerequisites: junior standing and B or better in Economics 150-151 or consent of instructor. (3) I. Mr. Kirkpatrick.

299 DIRECTED READING. Prerequisite: consent of instructor. (Ar.) Staff.

300 DIRECTED READING AND RESEARCH. Prerequisite: graduate standing or consent of instructor. (3-3) Yr. Staff.

310 SEMINAR IN LABOR PROBLEMS. Prerequisite: graduate standing or consent of instructor. (3) I. Mr. Roberts.

315 SEMINAR IN CURRENT ECONOMIC PROBLEMS. Prerequisite: graduate standing or consent of instructor. (3) I. Mr. Shoemaker, Staff.

EDUCATION

Professors White, Thayer, Armstrong, Brown; Associate Professors Phillips, Porter, Clopton, Beyers; Assistant Professors Chun, Everly, Traut, Gardner; Instructors Fitzsimmons, Schmidt, Davis, Palmer, PeGRAM, Swickard, Tinker, Snow, Williams, Yang, Leach, Kaneshige, Wood, Suboka, Orr, Bennett, Kiyosaki, Jenkins, Gallagher; Graduate Assistants Lum, Easley.

Enrollment in Education courses is restricted to students in Teachers College except by special permission of the chairman of the department.
100 **Orientation.** Survey of students' problems of adjustment in the University; the bases of the choice of teaching as a profession and the proposed choice of a major and a teaching field. (1-1) Yr.

235 **Participation Teaching.** Students assigned as assistants to teachers in public schools; practical experience, observation, and illustrative material for Education 250-251, 283-284, and 285-286. (1-1) Yr. Mr. Everly, Miss Porter, Miss Swickard.

237 **Music in the Preschool-Primary Curriculum.** Singing, simple work with instruments, rhythmic activities, dancing and dramatic play, in the growth and development of children two to seven years of age. (2) I. Miss Snow.

238 **Art and Construction Activities in the Preschool-Primary Curriculum.** The materials and procedures of these activities appropriate to children two to seven years of age. (2) II. Miss Wood.

239 **Natural and Social Sciences in the Preschool-Primary Curriculum.** The materials and procedures of these activities appropriate to children two to seven years of age. (2) II. Miss Pegram, Miss Bennett.

240 **Social Studies in the Elementary School Curriculum.** The scope and organization of the social studies in the elementary school curriculum. The development of social knowledge and understanding in childhood experience. (2) I. Miss Traut.

241 **Mathematics and Science in the Elementary School Curriculum.** The scope and organization of mathematics and science in the elementary school curriculum. The development of the subject matter of these fields in childhood experience. (2) II. Mrs. Jenkins.

242 **Hawaiian Natural History for Teachers.** Survey of the local physical and biological environment, with special reference to the needs of teachers in the schools of Hawaii. Students may enter the second semester. (2-2) Yr. Mr. Tinker.

245 **Science in the Secondary School Curriculum.** Purposes and procedures. The development of scientific attitude. Review of the major generalizations of the biological and physical sciences. (2) I. Mr. Kiyosaka.

246 **Mathematics in the Secondary School Curriculum.** Purposes and procedures. The development of basic mathematical concepts. (2) II. Mr. Kiyosaka.

247 **Social Studies in the Secondary School Curriculum.** The scope and organization of social studies in the secondary school. The development of social knowledge and understanding. (2) I. Miss Davis.

248 **Shopwork in the Elementary School Curriculum.** A course designed to acquaint elementary teachers with materials, tools, and processes appropriate to childhood experience. (Not offered 1948-49.) (2) I and II.
249 THE TEACHING OF TYPEWRITING AND SHORTHAND. Theory and methods of teaching typewriting and shorthand. Prerequisites: Business 170 and 177. (2) II. MRS. TILLEY.

250–251 SECONDARY EDUCATION. Basic course dealing with major problems of secondary education. (3–3) Yr. MR. EVERLY.

252 TEACHING PHYSICAL EDUCATION ACTIVITIES. Methods and materials in the conduct of the physical activity program. Techniques in leadership, including the selection of activities and program evaluation. (2) II. MR. BROWN.

253 PRACTICE TEACHING IN HOME ECONOMICS. Observation, supervised teaching, and conferences. Prerequisites: senior standing; credit or concurrent registration in Home Economics 251. (6) I and II. MISS PHILLIPS.

254 PRACTICE TEACHING. Teaching experience supervised by staff members of the Teachers College Preschool and Elementary and Intermediate Schools. (14) I and II. MISS TRAUT, MR. EVERLY, MISS GARDNER.

255 SEMINAR FOR PRACTICE TEACHERS. Study of problems arising from immediate experience as classroom teachers. To be taken concurrently with Education 254 (2) I and II. MISS PORTER, MR. CLOPTON, MISS SWICKARD.

256 SEMINAR FOR PRACTICE TEACHERS IN HOME ECONOMICS. Study of problems arising from immediate experience as classroom teachers. (2) I and II. MISS PHILLIPS.

270 AGRICULTURAL PROJECT WORK. The project as an educational device in all-day, young farmer, and adult farmer classes; classroom correlation; plans, records, reports, and accounts. (3) II. MR. ARMSTRONG.

271 PRINCIPLES OF VOCATIONAL EDUCATION. The nature, purpose, and scope of vocational education; relation to prevocational and general education; federal, state, and local policies and plans; organizations adapted to this type of work; organization for Hawaii. (3) II. MR. ARMSTRONG.

274 TEACHING VOCATIONAL AGRICULTURE. Organizing and instructing classes in agriculture for all-day students; long-time programs; annual plan of work; references, equipment, supplies, records, reports; relation to prevocational agriculture. (3) I. MR. ARMSTRONG.

275 PRACTICE TEACHING IN VOCATIONAL AGRICULTURE. Full-time observation and teaching under supervision for six weeks in selected centers. Prerequisite: credit or concurrent registration in Education 274. (Not offered 1948–49.) (6) II. MR. ARMSTRONG.

283–284 PRE幼稚–PRIMARY EDUCATION. Basic course dealing with major problems in the education of children of ages two to seven. (3–3) Yr. MISS SWICKARD, MISS GARDNER.

285–286 ELEMENTARY EDUCATION. Basic course dealing with major problems in the education of children of ages seven to twelve. (3–3) Yr. MISS PORTER.
289 HISTORY OF EDUCATION. (Formerly 350.) Survey of the history of educational thought and practice as a basis for the study of modern school problems. (3) I and II. MR. THAYER.

290–291 TEACHING OF SLOW LEARNERS. A study of the social, psychological, and procedural problems involved in the teaching of slow learners. Students may enter the second semester. (2–2) Yr.

296 HISTORY OF EDUCATION IN HAWAII. Review of the social, economic, religious, and political background of Hawaii up to 1900 that brought about an American public school system in Hawaii previous to annexation. (Not offered 1948–49.) (2) I.

297 MODERN EDUCATIONAL HISTORY IN HAWAII. Events of the present century that have influenced education in Hawaii; industry and immigration; Organic Act and legislation; political trends. (Not offered 1948–49.) (2) II.

298 EDUCATION OF CHILDREN IN THE FAMILY. Preparation for the directing of parent education in connection with preschool and elementary teaching. (2) I. MISS PALMER.


300 DIRECTED READING OR RESEARCH. Individual reading or research in (a) Preschool Education, (b) Elementary Education, (c) Secondary Education, (d) History of Education, General and United States, (e) History of Education, Hawaiian, (f) Philosophy of Education, (g) Administration and Supervision, (h) Adult Education, (i) Agricultural Education, (j) Home Economics Education. Prerequisites: graduate standing; consent of the chairman of the department and of instructor concerned. (Ar.) STAFF.

300t MINOR RESEARCH. Preparation and presentation of a minor research problem in education. Required as a preliminary to qualification for candidacy for Ed.M. degree. Prerequisites: credit or concurrent registration in Education 380; consent of instructor. (1) I and II. MR. CLOPTON, STAFF.

340 PHILOSOPHY OF EDUCATION. Philosophy and science in education; social, psychological, and ethical considerations essential to the development of a philosophy of education; implications of philosophical viewpoints for policy in education. (3) I and II. MR. THAYER.

345 SEMINAR IN PHILOSOPHY OF EDUCATION. Social and psychological theory involved in controversial educational issues. Prerequisites: Education 340 or equivalent and consent of instructor. May be repeated for credit by permission of instructor. (2) I and II. MR. THAYER.

354 INTERNSHIP. Full-time teaching under special supervision in selected public schools. Restricted to fifth-year students. (14) I and II. MR. ARMSTRONG, MISS PORTER, MR. CLOPTON, MISS PHILLIPS, MISS SWICKARD.
361 Evaluation in Education. Theory and techniques of evaluation in education; practice in the use of testing devices. (3) I and II. Mr. Chun.

363 Seminar in Educational Administration. Organization for public education; taxation; equalization; internal problems of school administration; personnel; pupil classification; records and reports. Restricted to administrators and prospective administrators. Prerequisite: consent of instructor. (2) I. Mr. Thayer.

365 The Supervision of Instruction. The supervisory work of the principal; the place of supervision; and organization for supervisory service; techniques. Restricted to administrators and prospective administrators. Prerequisite: consent of instructor. (2) II. Mr. Thayer.

369 Seminar in Speech Pedagogy. Review of literature in the field and analysis of present and local problems facing the teacher of speech. (3) I. Mr. Smith.

376 Seminar in Vocational Education. Individual study of special problems in vocational education. (2) I and II. Mr. Armstrong.

380 Research and Thesis Writing. Research techniques and thesis development; designed to assist students in thesis preparation. Prerequisites: Education 340, 361, 390; Psychology 351; consent of instructor. (2) II. Mr. White.

390 Public School Administration. State and territorial organization for administrative control of public education; federal relations; Hawaiian school law and Department of Public Instruction regulations. (2) I and II. Mr. Everly.

395 Seminar for Intern Teachers. Problems arising from the classroom experiences of intern teachers. Restricted to fifth-year students. (2) I and II. Miss Porter, Mr. Clopton, Miss Swickard.

396 Seminar in Curriculum Improvement. Social and psychological bases of the curriculum; selection, development, and evaluation of the school experiences of children and youth; organization and administration of curriculum construction. (2) I and II. Mr. Thayer.

ENGINEERING

Professors Kunesh, Holmes, Bennett; Associate Professors Townes, Nichols; Assistant Professors McCall, Daniel, Evans, Wachter; Instructors Robertson, Elstner.

CE 101 Plane Surveying. Use of chain, tape, level, and transit; map platting and computations. One lecture and two field or drafting periods a week. Prerequisites: Mathematics 150; Mechanical Drawing 101. Laboratory fee $2.00 each semester. (3-3) Yr. Mr. Daniel.

CE 227 Route Surveying. Reconnaissance; preliminary survey; paper location; curve computations; field location; platting profiles; determining grade lines; earthwork computations for location of railroad or highway. Two half-day periods or one full-day period a week. Prerequisite: Civil Engineering 101. Laboratory fee $2.00. (3-3) Yr. Mr. Daniel.
CE 229 MUNICIPAL ENGINEERING. Water supply and water works; hydrology, fire protection, and sanitation; water treatment; sewerage, drainage, and garbage disposal; sewage treatment. Disposal of storm water; flood control. Prerequisite: Civil Engineering 255 or consent of instructor. (3-3) Yr. MR. KUNESH.

CE 231 SOIL MECHANICS. Physical factors in earth pressure phenomena; soil phenomena in earthwork operations and foundation work. Prerequisite: Civil Engineering 253. (2) II. MR. EVANS.

CE 252 ANALYTIC AND APPLIED MECHANICS. Effect of forces on bodies, both at rest and in motion. Prerequisite: Mathematics 154. (5) I. MR. EVANS, MR. WACHTER.

CE 253 STRUCTURAL MECHANICS. Action and effect of internal stresses in bodies and members of structures. Prerequisite: Civil Engineering 252. (4) II. MR. EVANS, MR. WACHTER.

CE 255 HYDRAULICS. Water pressure, strength of pipe, stability of gravity dams; water flow through orifices, nozzles, and weirs; manometers, Pitot tubes, and Venturi meters; steady flow in pipes and open channels, non-uniform flow, complex pipe; hydrodynamics. Prerequisites: credit or concurrent registration in Civil Engineering 252 and 253. (4) I.

CE 257 HIGHWAY ENGINEERING. (Formerly 153.) Design, construction, and maintenance of streets and highways; planning, financing, etc. Prerequisites: Civil Engineering 227, 231, and 253 or consent of instructor. (3) II. MR. BENNETT.

CE 258 STRUCTURAL THEORY. Moving loads, influence lines, rigid frames, portals, and arches; by methods of work, slope, and deflection. Cross method, etc. Two lectures and one design period a week. Prerequisite: Civil Engineering 253. (3) I. MR. BENNETT.

CE 277 STRUCTURAL DESIGN. Design and detailing of beams, columns, girders, bridges, mill buildings; in wood and steel, including welded structures. One lecture and two design periods a week. Prerequisite: Civil Engineering 276. (3) II. MR. BENNETT.

CE 279 REINFORCED CONCRETE. Basic theory of reinforced concrete, including the design of highway bridges and retaining walls of concrete and masonry. Two lectures and one design period a week. Prerequisite: Civil Engineering 253. (3) I. MR. BENNETT.

CE 280 REINFORCED CONCRETE DESIGN. (Formerly second semester of 279.) Foundations; buildings, including flat-slab, ribbed, etc., rigid frames, box culverts, and other indeterminate structures. Continuation of CE 279. Two lectures and one design period a week. (3) II. MR. BENNETT.

CE 292 CONTRACTS AND SPECIFICATIONS. The legal aspects of engineering contracts and specifications, with special reference to local requirements. Prerequisite: senior standing. (3) I. MR. KUNESH, MR. BENNETT.
MD 101 **MECHANICAL DRAWING.** Elements of drafting, sketching, and lettering; isometric, oblique, and cabinet drawing; working drawings, conventions, standards, tracing, and blueprinting. Two three-hour, or three two-hour, laboratory periods a week. Laboratory fee $1.00 each semester. (2–2) Yr. MR. MCCALL, MR. ROBERTSON.

MD 103 **ARCHITECTURAL DRAWING.** Elements of drafting, sketching, lettering, conventions, and standards, followed in second semester by architectural drawing and elements of architecture with their application in simple composition. Three three-hour drafting periods a week. Laboratory fee $1.00 each semester. (3–3) Yr. MR. NICHOLS.

MD 152 **DESCRIPTIVE GEOMETRY.** Geometry of engineering drawing; intersections and development of surfaces. Two three-hour drafting periods a week. Prerequisite: Mechanical Drawing 101 or 103. (2) I and II. MR. TOWNES, MR. EVANS.

MD 153 **SHADES AND SHADOWS.** For students in architecture. The application of descriptive geometry in making perspective drawings and accurate determination of shades and shadows. Two three-hour periods a week. Prerequisite: Mechanical Drawing 152. (2) II. MR. NICHOLS.

ME 202 **MATERIALS OF ENGINEERING AND LABORATORY.** Properties of cements, limes, plasters, and plain and reinforced concrete; methods of manufacture and standard tests for quality; testing cements, concretes, reinforced concrete, and aggregates used in making concrete; operation and calibration of testing machines. Two lectures and one laboratory period a week. Prerequisite: credit or concurrent registration in Civil Engineering 252. Laboratory fee $5.00. (3) I. MR. HOLMES, MR. ELSTNER.

ME 203 **MATERIALS OF ENGINEERING AND LABORATORY.** A continuation of Mechanical Engineering 202; properties and requirements of iron, steel, other metals, and wood; various tests of timber and metals. Prerequisite: Mechanical Engineering 202. Laboratory fee $5.00. (3) II. MR. HOLMES, MR. ELSTNER.

ME 282 **STEAM MACHINERY.** Fundamental laws governing transformation of heat into work; properties of gases, laws of expansion, heat measurement, mechanical equivalent of heat, properties of steam, steam tables. Prerequisites: Mathematics 155; Physics 104. (3) I. MR. HOLMES.

AE 101 **HISTORY OF ARCHITECTURE.** A general survey of the architecture of all periods; reference reading, illustrated lectures, recitations, and discussions. (3–3) Yr. MR. NICHOLS.

AE 102 **ARCHITECTURAL DESIGN.** Elementary architectural design of buildings and their details, rendered in wash and color. Prerequisites: Architectural Engineering 101; Mechanical Drawing 103. (3–3) Yr. MR. NICHOLS.
100 COMPOSITION. A five-hour course required of all freshmen failing to attain a standard in the entrance examination qualifying them for admission to English 101. Identical in content with English 101 except for the additional time given to remedial work. (3) I and II. STAFF.

101 COMPOSITION. Principles and practice of composition. For all students qualifying in entrance examinations. (3–3) Yr. STAFF.

120–121 NEWS WRITING. An introductory course in journalism, with emphasis on reporting and with practice in news writing; work on Ka Leo and student publications. (3–3) Yr. MR. DAVENTPORT.

150 INTRODUCTION TO ENGLISH LITERATURE. A survey of English literature from the beginnings to the present; attention given to the interrelationships of English and American literature. Prerequisite to all advanced courses in American, English, and comparative literature. (3–3) Yr. STAFF.

152 INTRODUCTION TO LITERATURE. A study of selected types of literature; emphasis on historical background, survey of field, critical standards, and personal interpretation. Open only to students in Teachers College. (3–3) Yr. MR. COALE.

155 ENGLISH LITERATURE. A study of important writers and works in English literature. Open only to students in the College of Applied Science. (3) I. STAFF.

202 ADVANCED COMPOSITION. First semester: expository forms, including the essay. Second semester: descriptive and narrative forms, including the short story. A study throughout the year of current literary forms, and encouragement and criticism of student experiments in creative writing. Those wishing to register for the second semester only must have the consent of the instructor. Prerequisite: an average of C in English 100 or 101. (3–3) Yr. MR. COLLINS.

204 ADVANCED ENGLISH GRAMMAR. A general study of the sentence unit; emphasis on the scientific or descriptive view of grammar, the relation between forms and ideas, and special problems in grammatical usage. (2) II. MR. COALE.

205 BACKGROUND OF ENGLISH LITERATURE. A study of the most important sources of English literary themes and allusions, including the King James Bible and Western European mythology and legends. (3) II. MR. GREEN.

210 REPORT WRITING. Principles of technical exposition, with composition and analyses of reports, papers, and selected types of business and professional writing. Supplemented by readings and discussions of selections from general literature. (3) II. MR. LEIB.

216 PLAYWRITING. Study of one-act plays and practice in writing in the dramatic form, with a possibility of University Theatre Guild workshop production. Prerequisite: consent of instructor. (3) I. MR. WILSON.
217 Fiction Writing. Principles of narrative craftsmanship put into practice in original stories, through study of fiction technique, characterization, plot, style, mood, and emotional effect. Study of successful examples of the modern short story and novel in English. Prerequisite: consent of instructor. (Alternate years; offered 1948–49.) (3) II. Mr. Day.

222 Elements of Publishing. Theory and practice of publishing; mechanical aspects of printing processes, type faces, typographical display, type calculations, illustration. (3) I. Mr. Davenport.

223 News Editing. Copyreading, headline writing, news, and advertising display, use of illustrations, responsibilities of the editor. (3) II. Mr. Davenport.

240 History of Literary Criticism. Chief theories of literary criticism, with readings (in English) from Plato to the present. (Alternate years; not offered 1948–49.) (3) II. Mr. Day.

252 Language Arts in the Preschool–Primary Curriculum. Designed to help prospective teachers understand the normal language development of preschool–primary children, and to explore ways of providing for this development. Open only to students in Teachers College. (2–2) Yr. Miss Swickard.

253 Language Arts in the Elementary School. Fundamentals in the teaching of reading and expression; special attention given to planning, materials, and present problems. Open only to students in Teachers College. (2–2) Yr. Mrs. Fitzsimmons, Mr. Coale.

254 Language Arts in the Secondary School. Fundamentals in the teaching of reading, literature, and language at the junior high school level; special attention to problems of speech, usage, and vocabulary in local schools. Open only to students in Teachers College. (2–2) Yr. Mrs. Yang, Mr. Coale.

255 Literature in the Elementary School. Designed to help prospective teachers become acquainted with a wide range of children's books, and to develop criteria for judging literature on the basis of children's needs and interests. Open only to students in Teachers College. (2) I and II. Mrs. Geiser.

260–261 American Literature. A chronological survey of American literature from colonial times to the twentieth century; special attention to the main currents of American thought and culture. First semester: from the beginnings to the Civil War; second semester: from the Civil War to the early twentieth century. (3–3) Yr. Mr. Stroven.

263 Literature of the Pacific. A survey of the literature of the Pacific islands and Australia: narratives of voyagers and travelers, translations of native folk literature, and short stories and novels by such writers as Melville, Stevenson, London, Becke, and Nordhoff and Hall. (3) II. Mr. Stroven.

270 Chaucer. A study of the life, times, and major works of Chaucer, with emphasis on The Canterbury Tales. (Alternate years; not offered 1948–49.) (3) I. Mr. Green.
272 HISTORY OF THE ENGLISH LANGUAGE. The growth and development of the English language; its sources, forms, mutations, and standards of usage. (Alternate years; offered 1948–49.) (3) I. MR. GREEN.

274 THE ENGLISH DRAMA TO 1642 (EXCLUSIVE OF SHAKESPEARE). Origins of the English drama; the medieval drama and theater; the rise of professional drama; the contemporaries and successors of Shakespeare; the closing of the theaters. (Alternate years; not offered 1948–49.) (3) I. MR. DAY.

275 NONDRAMATIC ELIZABETHAN AND SEVENTEENTH-CENTURY ENGLISH LITERATURE (1558–1660). Principal nondramatic authors and works from the accession of Elizabeth to the Restoration. (Alternate years; offered 1948–49.) (3) I. MR. KORN.

276–277 SHAKESPEARE. First semester: Shakespeare's histories and comedies; second semester: Shakespeare's tragedies. (3–3) Yr. MR. ERNST.

280 RESTORATION AND EIGHTEENTH-CENTURY LITERATURE. A study of neo-classical and pre-romantic writings from 1660 to 1789. (Alternate years; offered 1948–49.) (3) II. MR. KORN.

282 POETRY AND PROSE OF THE ROMANTIC MOVEMENT IN ENGLAND. An intensive study of the principal writings of the period 1780–1832, exclusive of the novel. (Alternate years; offered 1948–49.) (3) I. MR. DAY.

284 VICTORIAN LITERATURE (EXCLUSIVE OF THE NOVEL). A study of the principal English authors and works of the period 1832–1900. (Alternate years; not offered 1948–49.) (3) II. MR. BOUSLOG.

285 THE ENGLISH NOVEL TO 1832. Principal English novels and novelists from the beginnings to 1832. (Alternate years; not offered 1948–49.) (3) I. MR. KORN.

286 THE ENGLISH NOVEL, 1832–1900. Principal English novels and novelists from 1832 to the turn of the century. (Alternate years; not offered 1948–49.) (3) II. MR. KORN.

287 MODERN DRAMATIC LITERATURE. First semester: continental drama from Ibsen's immediate predecessors to the present; second semester: American and British drama. (Alternate years; not offered 1948–49.) (3–3) Yr. MR. WILSON.

288 CONTEMPORARY EUROPEAN LITERATURE. Representative works of the leading British and continental novelists and British poets since 1900. (Alternate years; offered 1948–49.) (3) I. MR. DAY.

289 CONTEMPORARY AMERICAN LITERATURE. Representative works of the leading American novelists and poets since 1900. (Alternate years; offered 1948–49.) (3) II. MR. DAY.

299 DIRECTED READING. Open only to English majors. Prerequisite: consent of the department chairman. (Ar.) I and II. STAFF.
300 DIRECTED RESEARCH. Graduate study in (a) American literature, or (b) English literature. May be repeated until an aggregate of six credits has been earned. Prerequisite: consent of the department chairman. (2) I and II.

310 SEMINAR IN AMERICAN OR ENGLISH LITERATURE. Special study of problems, authors, or periods in English or American literature. Prerequisites: graduate standing; consent of instructor. (2) II. STAFF.

313 SEMINAR IN BIBLIOGRAPHY AND RESEARCH METHODS. Materials of English studies; problems of bibliography; fundamentals of thesis writing. Strongly advised for all candidates for the M.A. degree in literature. Prerequisite: consent of department chairman. (1) STAFF.

FRENCH

PROFESSOR PECKER; ASSISTANT PROFESSORS ELLIOTT, SHEPARD, ASPINWALL.

100 ELEMENTARY FRENCH. Grammar, phonetics, diction, and reading of easy prose and poetry. (3-3) Yr. MR. PECKER, MR. ELLIOTT, MR. SHEPARD, MRS. ASPINWALL.

101 INTERMEDIATE FRENCH. Review of grammar, composition, and reading from selected modern authors. Prerequisite: one year of French in college or two years in preparatory school. (3-3) Yr. MR. SHEPARD, MRS. ASPINWALL.

201 MODERN FRENCH LITERATURE. Novel, biography, drama; composition and diction. Prerequisite: two years of college French or the equivalent. (3-3) Yr. MR. PECKER.

250 CLASSIC DRAMA. Rapid reading of plays of Moliere, Racine, and Corneille. Prerequisite: three years of college French or the equivalent. (2-2) Yr. MR. PECKER.

270 FRENCH LITERATURE BETWEEN THE TWO WORLD WARS. Prerequisite: three years of college French or the equivalent. (Not offered 1948-49.) (2-2) Yr. MR. PECKER.

299 DIRECTED READING. Reading of the latest French publications. Prerequisite: consent of instructor. (Ar.) Yr. MR. PECKER.

GEOGRAPHY

ASSOCIATE PROFESSOR MANCHESTER.

150 ELEMENTS OF GEOGRAPHY. Introduction to the principles of geography. Basic interrelations of human life and elements of the natural landscape—climate, land forms, drainage patterns, soils, minerals, natural vegetation, and native animal life. (3) I. MR. MANCHESTER.
151 **ECONOMIC GEOGRAPHY.** Distribution of the principal commodities of world commerce. An analysis of the world's important agricultural, industrial, and commercial regions with their interconnecting trade routes. (3) II. MR. MANCHESTER.

250 **CARTOGRAPHY.** A study of the history of map making, the construction of projections, and the techniques of drafting various types of maps for use in geographic investigations. (3) II. MR. MANCHESTER.

252 **GEOGRAPHY OF NORTH AMERICA.** The areal differentiation of climates, land forms, soils, vegetation, and minerals of North America, and the types of human occupancy predominant in each of the resulting natural regions. (3) I.

255 **GEOGRAPHY OF ASIA.** The regional geography of Asia. The distribution and the activities of the peoples in relation to the natural setting, and the problems of development which the different countries are facing. (3) I. MR. MANCHESTER.

256 **GEOGRAPHY OF JAPAN.** The regional study of the geography of Japan. A detailed study of the people and the resources of the land. (2) II. MR. MANCHESTER.

258 **THE GEOGRAPHY OF EUROPE.** The physical and human geography of Europe. Its geography as a background study for its present problems. (3) II.

259 **GEOGRAPHY OF THE SOVIET UNION.** A detailed course in the physical and human geography of the Soviet Union. The physical bases of Soviet strength. (3) II.

261 **OCCUPATIONAL GEOGRAPHY.** A foundation course in economic geography for prospective teachers. A basic grounding in the physical and human aspects of geography, as well as its philosophy, teaching, and source materials. (3) I and II.

262 **METEOROLOGY.** A basic course in the fundamentals of weather knowledge. Understanding of the weather map. (3) I.

263 **GEOGRAPHY OF THE PACIFIC ISLANDS.** Polynesia (except Hawaii), Melanesia, Micronesia, and Indonesia. (2) I. MR. MANCHESTER.

271 **POLITICAL GEOGRAPHY.** The physical bases of the world's politics. Climates, land forms, minerals, and industries in relation to political power and strategy. The political problems of area. (3) II.

299 **DIRECTED READING.** Prerequisite: consent of instructor. (Ar.) I and II. STAFF.

300 **DIRECTED RESEARCH.** Prerequisite: consent of instructor. (Ar.) STAFF.

**GEOLOGY**

**PROFESSOR PALMER.**

150 **PHYSICAL GEOLOGY.** Materials composing the earth; operation and effects of geologic agents. Prerequisite: sophomore standing. (3) I. MR. PALMER.

151 **HISTORICAL GEOLOGY.** History of the earth, of its continents and ocean basins, and of its inhabitants. Prerequisite: Geology 150. (3) II. MR. PALMER.
152–153 LABORATORY GEOLOGY. Identification of minerals and rocks, reading of topographic and geologic maps, and study of important fossil forms. One laboratory period a week. Prerequisite: credit or concurrent registration in Geology 150 or 151. Laboratory fee $1.00. (1–1) Yr. MR. PALMER.

260 PHYSIOGRAPHIC REGIONS OF THE UNITED STATES. Prerequisite: credit in Geology 151. Two recitations and one laboratory period a week. (3) I. MR. PALMER.

262 VOLCANOLOGY. Classification, eruptive types, products, structures, distribution, and periodicity of volcanoes. Prerequisites: credit in Geology 150; credit or concurrent registration in Physics 102. (3) II. MR. PALMER.

299 DIRECTED READING. Prerequisite: consent of instructor. (Ar.) MR. PALMER.

300 DIRECTED READING. Prerequisites: graduate status and consent of instructor. (Ar.) MR. PALMER.

GERMAN

ASSOCIATE PROFESSOR MUeller; ASSISTANT PROFESSOR HORMANN.

100 ELEMENTARY GERMAN. Grammar developed from easy reading material; exercises in reading and translating. Laboratory work in conversation and composition will be offered in a special section. Consent of the instructor is required for registration in this section. (3–3) Yr. MRS. HORMANN, MISS MUELLER.

101 INTRODUCTION TO GERMAN LITERATURE. Continuation of grammar; vocabulary building; sight translation; composition; conversation. (3–3) Yr. MISS MUELLER.

102 SCIENTIFIC GERMAN. Sentence construction and analysis; translation from difficult German scientific readings. (3–3) Yr. MRS. HORMANN, MISS MUELLER.

200 CLASSICAL GERMAN LITERATURE. Reading of works of Lessing, Goethe, and Schiller. (3–3) Yr. MRS. HORMANN.

201 CONTEMPORARY LITERATURE. Reading supplemented by exercises in composition. (Alternate years; not offered 1948–49.) (3–3) Yr. MISS MUELLER.

202 ADVANCED SCIENTIFIC GERMAN. Reading and translation of scientific material and practice in sight translation. Prerequisites: two years of college German; consent of instructor. May be repeated once. (Ar.) Yr. MRS. HORMANN.

299 DIRECTED READING. Prerequisite: German 200 or 201. (Ar.) Yr. MISS MUELLER.

GOVERNMENT

PROFESSORS BACHMAN, LEEBRICK, MELLER, SPELLACY, SAUNDERS; ASSISTANT INOUE; LECTURER AKINA; GRADUATE ASSISTANTS HORWITZ, MIWA.

150 AMERICAN NATIONAL GOVERNMENT. The organization and functioning of the national government; protection of civil rights; the party system; principles of
American democracy. Prerequisite to all other courses in Government. (3) I and II. MR. BACHMAN, MR. SAUNDERS, MR. SPELLACY, MR. INOuye.

235 AMERICAN CONSTITUTIONAL SYSTEM. (Formerly 160.) A consideration of leading constitutional principles, their growth and change, including the nature of the union, separation of powers, judicial review, due process of law, and related subject matter. (3) II. MR. SPELLACY.

238 ELEMENTS OF POLITICAL AND GovERNMENT. An introduction to the terms and principles of political science. The meaning of law, liberty, constitutionalism, democracy, etc. (3) I. MR. SAUNDERS.

241 CONTEMPORARY POLITICS. The world of politics as illustrated by current national and international events. (2) I and II. MR. SAUNDERS.

248 AMERICAN STATE GOVERNMENT. State constitutions; historical evolution of state government; its structure with reference to judicial, legislative, and executive branches; limitations on state authority; the electorate and election laws, etc. (Alternate years; offered 1948–49.) (3) II. MR. SPELLACY.

252 INTRODUCTION TO CONSTITUTIONAL LAW. Examination of principal cases concerned with the government departments, state relations, due process of law, interstate commerce, and related subject matters. (3) I. MR. SPELLACY.

254 MUNICIPAL GOVERNMENT. The city as a political subdivision and as a municipal corporation; powers and liabilities; forms of government; municipal politics; the metropolitan problem; and related matters. (Alternate years; not offered 1948–49.) (3) I. MR. SPELLACY.

256 AMERICAN POLITICAL PARTIES. The organization, methods, and functions of political parties, and of pressure groups. (3) I. MR. SAUNDERS.

260 INTERNATIONAL RELATIONS. A study of the factors which condition the foreign policy of states: nationalism, imperialism, and power politics. Outstanding problems of world politics. Required of majors in government. (2) I. MR. BACHMAN.

261 INTERNATIONAL ORGANIZATION. A study of the problems involved in the development of international government, with special emphasis on the United Nations Organization. (2) II. MR. SAUNDERS.

262 GOVERNMENT AND POLITICS OF THE FAR EAST. An analysis of the governmental structure of Japan, China, Korea, and the colonial areas; a survey of the political problems facing the nations of the Far East in the postwar period. (2) II. MR. LEEBRICK.

263 INTERNATIONAL RELATIONS OF THE FAR EAST. The position of eastern Asia in the postwar world and the problems of adjustment that face Japan, China, and other nations of this region. (Not offered 1948–49.) (2) I. MR. LEEBRICK.

266 EUROPEAN GOVERNMENTS. Comparison of the political systems of Great Britain, France, and Switzerland with the United States; some attention to other countries. (Not offered 1948–49.) (3) II. MR. SAUNDERS.
271 Government of Dependencies. National and legal status; relations with United Nations and with the supervising national government; local government. (3) I.

282 Introduction to Public Administration. Relationship of administration to policy-forming agencies; organization of administrative staffs; centralization of responsibility. (3) I. Mr. Spellacy.

283 Personnel Administration. The organization and administration of civil service systems; the recruitment, classification, discipline, and status of civil servants; and related matters. (Alternate years; offered 1948-49.) (3) I. Mr. Akina.

284 Administrative Law. Laws relating to public officers, their status, rights, and obligations; laws governing relations between the government and the public, e.g., rights to notice and hearing, procedure for government commissions, due process. (3) II. Mr. Spellacy.

286 State and Local Administration. Consideration of general principles and recent trends in administrative organization; financial organization and management; other staff activities; the management of operating services such as health, public works, public utilities, police, and others. (Alternate years; offered 1948-49.) (3) I. Mr. Spellacy.

288 Methods and Problems of Research in Public Administration. Individual research projects in cooperation with the Legislative Reference Bureau, designed to acquaint the student with one or more of the practical problems confronting the public service. Enrollment restricted to students of the Public Administration Program who are within two semesters of graduation. (3) I and II. Mr. Meller, Staff.

290 Modern Political Philosophy. The principles of government as expounded by great thinkers of the Occident from 1600 to the present. The doctrines of fascism, communism, and democracy. Required of majors in government. (3) II. Mr. Saunders.

300 Directed Reading and Research. Individual problems in the field of government. Prerequisite: consent of instructor. (Ar.) I and II. Staff.

302 Seminar in International Relations. Prerequisite: consent of instructor. (2) I. Mr. Bachman.

303 Seminar in Government and Politics of the Far East. Prerequisite: consent of instructor. (2) II. Mr. Leebrick.

304 Seminar in Public Law. Prerequisite: consent of instructor. (2) I and II. Mr. Spellacy.

307 Seminar in Political Theory. Prerequisite: consent of instructor. (2) I and II. Mr. Saunders.

310 Seminar in Public Administration. Prerequisite: consent of instructor. (2) I and II. Mr. Meller, Mr. Spellacy.
ANNOUNCEMENT OF COURSES

HAWAIIAN

LECTURER KAHALE.

100 ELEMENTARY HAWAIIAN. Elements of the language. (3-3) Yr. MR. KAHALE.

101 INTERMEDIATE HAWAIIAN. Review of Hawaiian grammar. (3-3) Yr. MR. KAHALE.

HEALTH AND PHYSICAL EDUCATION

PROFESSOR BROWN; ASSISTANT PROFESSORS GAY, SAAKE, KAULUKUKUI; INSTRUCTORS GIBSON, SAKAMOTO, BARKLEY, GALLON, GUSTUSON, O'BRIEN.

101 INDIVIDUAL AND TEAM SPORTS. (Formerly 100 and 102.) Basketball, swimming, tennis, and volleyball. Two class periods a week. Activities fee $1.00. (1) I. STAFF.

102 INDIVIDUAL AND TEAM SPORTS. (Formerly 102 for women only.) Basketball, swimming, tennis, and volleyball. Two class periods a week. Activities fee $1.00. (1) II. STAFF.

103 INDIVIDUAL AND TEAM SPORTS. (Formerly 135 and 136.) Archery, golf, and rhythms. Two class periods a week. For sophomores. Activities fee $1.00. (1) I and II. STAFF.

105 RESTRICTED ACTIVITIES. (Formerly 104.) For students who are physically handicapped and unable to take the regular courses. Admittance only upon recommendation of University physician. Two class periods a week. Activities fee $1.00. (1) I and II. MISS GAY, STAFF.

111 INTERMEDIATE SWIMMING. For students who have met the basic requirements in swimming and desire to develop additional skills in swimming and diving. (1) I. MR. SAKAMOTO.

120 MUSIC AND RHYTHMS IN PHYSICAL EDUCATION. A basic course designed to acquaint teachers and activity leaders with the use of music in the activity program. Includes a brief survey of the various rhythmic patterns and their application. Three class periods a week. (2) II.

121 MODERN DANCE. Intended as an introduction to modern dance techniques, with emphasis on fundamentals. (2) I.

130 PERSONAL HYGIENE. (Formerly 105.) Scientific health information as a basis for hygienic living is emphasized. Personal health problems are discussed. One lecture and one personal conference a week. (1) I and II. STAFF.

132 PERSONAL HEALTH. Basic information on the proper care of the body and the development of desirable health habits and attitudes. Intended primarily for students specializing in physical education and recreation. (2) I. MISS GAY.
140 NATURE AND FUNCTION OF PLAY. The place of play in community and school life and its application to the various age groups. (2) I. MR. SAAKE.

143 LEADERSHIP IN COMMUNITY RECREATION. This course is intended to acquaint the student with the various recreation organizations, opportunities, and techniques. Participation in the program work of various organizations in the community. (2) II. MR. SAAKE.

170 INTRODUCTION TO PHYSICAL EDUCATION. Designed for prospective teachers and leaders in physical education and recreation; the objectives, needs, procedures, and outcomes in physical education activities. (2) II. MR. BROWN.

215 ATHLETIC COACHING—FOOTBALL AND BASKETBALL. The fundamentals: position play, team play, and strategy in football and basketball. Nine weeks to each sport. Three class periods a week. (2) I. MR. KAULUKUKUI, MR. GALLON.

217 ATHLETIC COACHING—BASEBALL AND TRACK. The fundamentals: team play and strategy in baseball; basic skills, analysis of form, and conditioning in track. Nine weeks to each sport. Three class periods a week. (2) II. MR. KAULUKUKUI.

219 COACHING OF SWIMMING. Designed for those interested in the development of swimming teams in schools and other agencies. Content and method will be emphasized. (2) II. MR. SAKAMOTO.

221 PHYSICAL EDUCATION FOR ELEMENTARY SCHOOLS. Content and method for programs on the elementary school level. Adaptations to meet situations with like age groups outside of school will also be discussed. Three class periods a week. (2) II. MISS O'BRIEN.

222 PHYSICAL EDUCATION FOR SECONDARY SCHOOLS. Activities and methods in programs for the junior and senior high school levels. Three class periods a week. (2) I. MISS O'BRIEN.

225 THE TEACHING OF INDIVIDUAL SPORTS. Organization and teaching techniques for such athletic activities for girls as tennis, archery, badminton, golf, etc., on the secondary level. Three class periods a week. (2) I. MISS GAY.

227 THE TEACHING OF TEAM SPORTS. Techniques of teaching fundamentals and strategy of team games for girls and women. Three class periods a week. (2) II. MISS GAY.

230 SCHOOL HEALTH PROBLEMS. (Formerly 223.) Health needs of the school child and principles, methods, and materials applicable to the school health program. (2) I and II.

232 PUBLIC HEALTH PROBLEMS. Deals with health problems of the community and the responsibility of individuals, groups, and organizations for public health. (2) I.

235 SAFETY PROCEDURES IN PHYSICAL EDUCATION. Prevention and emergency treatment of injuries, with special emphasis upon school, playground, and athletic situations. Practical work in bandaging included. Red Cross certificate may be earned. (2) II.
247 Festivals and Pageants. This course deals with the development of mass productions of a dramatic nature suitable for school and community recreation organizations. (2) II.

265 Introduction to Measurement in Physical Education. The outstanding tests in physical education; their selection and use in the modern program; statistical analysis and application of test data in the evaluation of pupil performance. (3) I. Mr. Brown.

269 Physical Education Program in Schools. Designed to meet the needs of school administrators, supervisors, and others concerned with the organization, program content, and function in the modern school curriculum. (2) II. Mr. Brown.

280 Anatomy in Physical Education. The purpose of this course is to develop an understanding of muscle action during activity. Designed primarily for leaders in physical education and recreation but open to others. (3) I. Mr. Brown.

285 Physiology in Physical Education. The basic essentials in physiology and physiology of activity, which are necessary in teaching desirable health practices, and the selection of activities to meet individual and group needs. Designed primarily for leaders in physical education and recreation but open to others. (3) II. Mr. Saake.

287 Adapted Activities for Atypicals. The selection, modification, and program of physical education activities to meet the needs of the physically handicapped. Designed primarily for those interested as majors in Physical Education and Recreation but open to others with consent of the instructor. (2) II. Mr. Brown, Staff.

289 Physical Examination. This course is intended to provide teachers and others interested in physical and health education with the knowledge necessary to the recognition of symptoms and signs of abnormal functioning of the body, the standard measuring devices used, and the duties of the teacher in this phase of the health program. (2) I. Mr. Saake.

290 Seminar in Physical Education and Recreation. Study and discussion of individual and group problems in the fields of physical education and recreation. (3) I and II. Mr. Brown.

HISTORY

Associate Professors Hunter, Kuykendall, Marder, Sakamaki, White; Assistant Professors Murphy, Neumann; Graduate Assistants Ady, Rowland, Quibent.

100 World Civilization. A survey of the more significant political, social, economic, and intellectual factors in the development of civilization from the ancient Orient and classical Greece and Rome to the present day, with emphasis on the Western civilizations. Prerequisite for advanced courses in history. (3-3) Yr. Mr. Marder, Mr. Murphy, Mr. Neumann.

110 Introduction to American History. The religious, cultural, and social backgrounds of the American people. Prerequisite for advanced courses in American history. (3) I and II. Mr. Hunter, Mr. Neumann.
201 HISTORY OF THE FAR EAST. Survey of the political, social, and economic history of the Far East as a unit. (3-3) Yr. MR. SAKAMAKI.

208 EXPANSION OF EUROPEAN CIVILIZATION. Survey of cultural changes and developments in Europe, the Western Hemisphere, and Asia resulting from European expansion. (3) I. MR. SAKAMAKI.

209–210 HISTORY OF ENGLAND. A survey of the political, social, industrial, intellectual, and religious life of the English people. History 209, though not required, is desirable preparation. (3-3) Yr. MR. MURPHY.

211 CONSTITUTIONAL HISTORY OF ENGLAND. A study of Anglo-Saxon institutions, Norman innovations; the legal, administrative, and parliamentary development under the Angevins; the limitation of royal power; and the rise of the cabinet system. (3) I. MR. HUNTER.

213 HISTORY OF MODERN RUSSIA. A survey of all aspects of Russian history and civilization from the beginning to the Bolshevik Revolution. (3) I. MR. MARDER.

214 HISTORY OF SOVIET RUSSIA. A political, economic, social, and cultural study of Russia since the Bolshevik Revolution. History 213, though not required, is desirable preparation. (3) II. MR. MARDER.

220–221 HISTORY OF THE BRITISH EMPIRE. Major trends in the acquisition and development of the Empire to the present day. Consideration of present problems of the Dominions, India, and the Colonies. Prerequisite: History 100. (3-3) Yr.

225 HISTORY OF CHINA. General survey of Chinese history; development of institutions; impact of Western culture upon Chinese civilization. (3-3) Yr. MR. WHITE.

226 HISTORY OF JAPAN. Historical survey of Japanese culture, government, economics, and institutions. (3-3) Yr. MR. SAKAMAKI.

229 HISTORY OF THE RELATIONS BETWEEN CHINA AND THE OCCIDENT. Diplomatic, religious, intellectual, and commercial relations between China and the occidental countries from earliest times to the present. (3-3) Yr. MR. WHITE.

242–243 HISTORY OF THE UNITED STATES. A detailed political, economic, and social survey of the history of the American people, 1789 to the present. (3-3) Yr. MR. HUNTER.

245 DIPLOMATIC HISTORY OF THE UNITED STATES. History of American foreign policy since the Civil War, with emphasis upon recent developments. (Not offered 1948–49.) (3) I. MR. HUNTER.

246 AMERICAN THOUGHT AND CULTURE. An advanced course on American social customs, institutions, and intellectual pursuits. (Not offered 1948–49.) (3) II. MR. HUNTER.

250 HISTORY OF EARLY CIVILIZATION IN THE FAR EAST. Study of the origins of the peoples and cultures in Eastern Asia. (3) I. MR. SAKAMAKI.
251 **History of Thought in Japan.** Major schools of thought and important thinkers, social reformers, economists, statesmen, and educators of Japan. (3) II. Mr. Sakamaki.

252 **Constitutional History of the United States.** The genesis, drafting, ratification, and development of the federal Constitution. (3) II. Mr. Hunter.

253–254 **History of Hispanic America.** The political, economic, and social development of the Hispanic American Republics from colonial times to the present; emphasis on the ABC powers and on the international relations of the Western Hemisphere. (3–3) Yr. Mr. Neumann.

257 **Europe in the Nineteenth Century.** The major political, social, economic, and intellectual trends in the evolution of Europe from Napoleon to the end of World War I. (3) I. Mr. Marder.

258 **Europe Since Versailles.** A continuation of History 257. The peace settlement, domestic and international developments since 1919. History 257, though not required, is desirable preparation. (3) II. Mr. Marder.

276 **History of the Hawaiian Islands.** A general course in some detail, with emphasis on the period of the monarchy. (3) I. Mr. Kuykendall.

277 **The Pacific Region in Modern Times.** First contact of East and West; discovery and exploration; activities of traders and missionaries; development of European and American interests; origin of current problems. (Not offered 1948–49.) (2–2) Yr. Mr. Kuykendall.

285 **Russia in Asia.** The growth and expansion of the Russian Empire and the Soviet Union into the Near East, Middle East, and Far East; relationships with its Asiatic neighbors in those areas. (3–3) Yr. Mr. White.

295 **Cultural History of China.** Principal stages of China's social and intellectual development from the dawn of Sinitic culture to the invasion of the old empire by new forces from the occidental world. (Not offered 1948–49.) (3–3) Yr. Mr. White.

300 **Directed Research.** Individual research in (a) American History—Mr. Hunter; (b) Pacific and Hawaiian History—Mr. Kuykendall; (c) Japanese History—Mr. Sakamaki; (d) European History—Mr. Marder; (e) English History—Mr. Murphy; (f) Hispanic-American History—Mr. Neumann; (g) Chinese History—Mr. White. (Ar.)

310 **Seminar in Historical Method.** Training in the evaluation of sources and the preparation of theses. Open to seniors and graduate students. (3) I. Mr. Hunter.

311 **Seminar in American Diplomatic History.** Open to seniors and graduate students. (3) I. Mr. Neumann.

313 **Seminar in Historiography.** The history of history and historians. Open to seniors and graduate students. (3) II. Mr. Hunter.
315 SEMINAR IN JAPANESE HISTORY. Problems in Japanese history. Guidance in use of Japanese historical material and discussion of special aspects of Japan's historical development. Prerequisite: consent of instructor. (3) II. MR. SAKAMAKI.

316 SEMINAR IN CHINESE HISTORY. Guidance in the use of Chinese historical materials. (Not offered 1948-49.) (3) I. MR. WHITE.

318 RUSSIA IN ASIA. A seminar dealing with Soviet policy in Central Asia and the Far East. Prerequisite: consent of instructor. (Not offered 1948-49.) (3) II. MR. MARDER.

319 EUROPE IN THE FAR EAST. A seminar dealing with the political and economic policies of the Great Powers in the Far East during the past century. Prerequisite: consent of instructor. (Not offered 1948-49.) (3) I. MR. MARDER.

HOME ECONOMICS

PROFESSOR MILLER; ASSOCIATE PROFESSORS PHILLIPS, JONES, GUELLE, TRIMBLE; ASSISTANT PROFESSORS RANKIN, BOATMAN; INSTRUCTORS BARTOW, SMITH, DOUTY, FRIESEN, OWENS; LECTURER GAUDIN.

The following courses have no prerequisites, except for year level, and are open to students in any college or curriculum: Home Economics 100, 101, 201, 250, 253, 262; Household Art 110, 111, 150, 151, 152; and Household Science 150, 156.

GENERAL COURSES (HE)

HE 100 ORIENTATION IN HOME ECONOMICS. Factors contributing to success in college and development of habits for effective living. Assistance in self-evaluation and relationship involving other persons. Home economics in education; an introduction to the curriculum; vocational study and planning. (2-2) Yr. MISS RANKIN.

HE 101 HOME NURSING. Principles and practice of simple nursing procedures for home care of the sick and for emergencies. Prevention of disease; care of mother and infant. The homemaker's responsibility for home and community health. One lecture and one laboratory period a week. (2) II. MISS JONES.

HE 201 CONSUMER EDUCATION. General problems of the consumer in purchasing foods, clothing, cosmetics, drugs, furniture, and equipment; consumer buying habits, testing bureaus, agencies protecting consumer, advertising, informative labeling; credit, installment buying. (2) I. MRS. GUELLE.

HE 250 HOUSEHOLD MANAGEMENT. Contribution of homemaker and family members to better home living; management of time and money; housing, house planning; selection, arrangement, and care of equipment. First semester, two lectures and one laboratory period a week. Second semester, one lecture and one laboratory period a week. Prerequisite: junior standing. (3-2) Yr. MRS. GUELLE.

HE 251 HOME ECONOMICS EDUCATION. Curriculum content, teaching procedures, and current educational philosophies and practices as they apply to home economics education. Prerequisites: Psychology 150; junior standing. (3) II. MISS PHILLIPS.
HE 252 CHILD TRAINING. Importance of the preschool years in the development of the individual; a constructive program for training the normal child in the home. Planned especially for Home Economics students. Two lectures and one laboratory period a week. Prerequisites: Home Economics 253; Psychology 150. (3) II. MISS WILLIAMS.

HE 253 CHILD CARE. Reproduction, prenatal care, childbirth, infant and preschool care, growth, minor ailments, common diseases, the school-age child, school health, and adolescence. (2) I. MRS. GAUDIN.

HE 262 EDUCATION FOR FAMILY LIFE. Relationship problems within the family; special emphasis upon the solution of individual problems as a basis for other satisfactory relations. Premarital instruction, husband-wife relationships, parent-child relationships. Open to both men and women. (3) I. MISS SMITH.

HE 291 HOME-MANAGEMENT HOUSE LABORATORY. Living with a group of four to six students in a supervised house for eight weeks; practical application of training in home economics; meal preparation, time and money management, human relationships. Students share subsistence cost. (4) I and II. MISS SMITH.

HE 295 METHODS IN EXTENSION AND HOME DEMONSTRATION WORK. Philosophy and objectives of home demonstration work. Organization of the University Agricultural Extension Service in Hawaii. Work with 4-H clubs or adult groups under the direction of the home demonstration staff. Students to be selected and arrangements for field practice to be made at the end of the junior year. Prerequisites: completion of requirements for Vocational Home Economics program; senior standing. (Ar.) I and II. MRS. TRIMBLE.

HE 360 SPECIAL PROBLEMS IN HOME ECONOMICS. Class and individual problems selected according to the needs of fifth-year students preparing to teach vocational homemaking. (2) I and II. MISS PHILLIPS.

HOUSEHOLD ART (HA)

HA 110 CLOTHING AND TEXTILES. Principles of selection and construction applied to garments of cotton and rayon; study and use of commercial patterns; principles of fitting; fundamentals of textiles; use and care of sewing machine. One lecture and two laboratory periods a week. Prerequisites: consent of instructor for non-Home Economics students; concurrent registration in Household Art 150. Laboratory fee $2.00. (3) I and II. MISS RANKIN.

HA 111 CLOTHING AND TEXTILES. Further study of textiles; construction techniques, design principles, and fitting applied to alteration and renovation problems. Consideration of children’s clothing. Two laboratory periods a week. Prerequisites: Household Art 110, 150. Laboratory fee $2.00. (2) II. MISS RANKIN.

HA 114 CLOTHING DESIGN AND CONSTRUCTION. Design and construction of garments suitable to the individual student. Principle of draping applied to dressmaking, and blocking from foundation pattern in flat pattern designing. Prerequisites: Household Art 110, 150, 151; Art 150–151. Laboratory fee $3.00 each semester. (2–2) Yr.
HA 150  CLOTHING SELECTION. Study of clothing needs for freshman students. Wardrobe planning and clothing selection with emphasis on design principles, color, and individual needs; cost and care of clothing. Laboratory fee $1.00. (1) I. MISS RANKIN.

HA 151  COSTUME DESIGN. The study of fashion illustration, applying principles of color, line, and design. Illustrations done in water color. Prerequisite: Household Art 150. Laboratory fee $1.00. (1) II. MISS RANKIN.

HA 152  HISTORIC COSTUME. A historic survey of costume, showing how fashion has reflected the life of the people. Historic costume as inspiration for modern dress. (2) II. MISS RANKIN.

HA 253  TAILORING. The study of the principles, techniques, and types of fabric used in a tailored garment. The application of these principles in the making of a tailored suit or coat. Prerequisites: Household Art 110, 114. Laboratory fee $3.00. (3) II.

HA 299  PROBLEMS IN CLOTHING AND TEXTILES. Independent investigation of a problem in clothing or textiles in which the student has a special interest. Prerequisite: Household Art 110, 111, 114, 150; Art 171 or equivalent. Consent of instructor and department chairman. (Ar.) II. STAFF.

HOUSEHOLD SCIENCE (HS)

HS 102  FOOD ECONOMICS. Economics of food selection; experimental food preparation; meal planning and serving. One lecture and two laboratory periods a week. Prerequisites: Household Science 150; Chemistry 100 or 103. Laboratory fee $5.00 each semester. Sections limited to 16 students each. (3-3) Yr.

HS 150  ELEMENTARY FOOD PREPARATION. Fundamental processes of food preparation; practical application in meal planning to provide good nutrition and promote good food habits. One section for upper division non-Home Economics students with consent of instructor. One lecture and two laboratory periods a week. Laboratory fee $5.00. Sections limited to 16 students each. (3) I and II. MRS. BARTOW.

HS 156  SURVEY OF NUTRITION. How to gain optimum health through good nutrition. A study of the food requirements and methods by which these may be met. Lectures and demonstrations illustrating the nutritional values of common foods and emphasizing those used in Hawaii. Open to both men and women. Laboratory fee $1.00. (2) I and II.

HS 200  NUTRITION. Nutritive requirements of man; function of food in the body; nutritive value of foods and their place in the diet. Two lectures and one laboratory period a week. Prerequisites: Chemistry 103 and 159; credit or concurrent registration in Chemistry 232. Laboratory fee $5.00 each semester. (3-3) Yr.

HS 250  DIET AND DISEASE. Diet therapy under abnormal conditions; reading, conferences, and laboratory. Two lectures and one laboratory period a week. Prerequisites: Household Science 102 and 200. Laboratory fee $2.00. (Not offered 1948-49.) (3) II.
HS 260  QUANTITY COOKERY. Food problems of institutions; preparation and serving of food in large quantities, menu planning, and food costs. One lecture and two two-and-one-half-hour laboratory periods a week. Prerequisite: Household Science 102. (3) I.

HS 261  INSTITUTIONAL MANAGEMENT. Organization and administration of food departments of institutions such as college cafeterias, college residence halls, and hospitals. Prerequisite: Household Science 260. (3) II.

HS 263  INSTITUTIONAL BUYING. Selection and purchase of foods and equipment for an institution. Prerequisite: credit or concurrent registration in Household Science 260. (2) II. MRS. BOATMAN, STAFF.

HS 264  PROBLEMS IN HOSPITAL DIETETICS OR INSTITUTIONAL MANAGEMENT. Field practice for senior and graduate student dietitians in an approved institution. Prerequisites: Household Science 200, 260, 261, 263, and 265. (4) I and II. MRS. BOATMAN.

HS 265  INSTITUTIONAL ACCOUNTS. Principles of accounting applied to management of school cafeterias, tearooms, residence halls, and other food service units. One lecture and two laboratory periods a week. Prerequisite: Household Science 260. (3) I.

HS 266  PROBLEMS IN RESIDENCE HALL MANAGEMENT. Planning and directing preparation of meals in a university women's residence hall; directing of housekeeping in residence hall. Prerequisites: Household Science 200, 260, 261, 263, and 265. (Ar.) I and II. MRS. BOATMAN.

HS 267  QUANTITY FOOD PREPARATION AND MANAGEMENT. Menu planning; organization of workers, materials, and equipment; preparation and service of meals for groups; simple record forms and their use; amounts of food to purchase. One lecture and two laboratory periods a week. Prerequisite: consent of instructor. Not open to institutional management majors. (3) II.

HS 270  NUTRITION FOR NURSES. Nutrition and diet as related to the needs of individuals and family groups; emphasis on nutritive value of local foods and racial diets. Two lectures and one laboratory period a week. (3) I.

HS 272  ELEMENTARY NUTRITION. Nutrition in relation to health of the individual and the family; planning of adequate diets utilizing foods available in Hawaii. Two lectures and two laboratory periods a week. Prerequisite: Household Science 102 or consent of instructor. Laboratory fee $5.00. (4) I.

HS 273  FOOD HABITS IN HAWAII. The planning and preparation of meals for various racial groups at different income levels; emphasis on adequate diets at minimum cost. Two lectures and two laboratory periods a week. Prerequisite: Household Science 200 or 272. Laboratory fee $5.00. (4) II. MRS. GRUELLE.

HS 299  DIRECTED RESEARCH IN EXPERIMENTAL COOKERY. Special problems relating to cost, preparation, and utilization of food, either of a general nature or with reference to Hawaiian conditions. Reading, laboratory, and conferences. Prerequisite: Household Science 102. Laboratory fee $5.00. (Ar.) I and II. STAFF.
HS 300 Directed Research in Nutrition. Problems according to preparation of each student; nutritional investigations; animal and human feeding experiments. Prerequisites: Household Science 200; consent of instructor. Laboratory fee $5.00 each semester. (Ar.) Miss Miller.

HS 301 Dietary Studies. Individual, group, family and/or institutional studies of food habits and the nutritive value of diets. Prerequisites: Household Science 200; consent of instructor. Open to qualified seniors. (Ar.) I and II. Miss Miller.

HS 305 Laboratory Methods in Nutrition. Growth experiments with laboratory animals; vitamin determinations by chemical, biological, and microbiological methods; food analyses; basal metabolism; balance experiments with animals or humans. Prerequisites: HS 200; Chemistry 230, 232. (3) I and II. Miss Miller, Staff.

HS 350–351 Seminar in Nutrition. Review of current literature; preparation of reports; reviews of articles on assigned topics. Prerequisite: consent of instructor. (1-1) Yr. Miss Miller.

Japanese

Associate Professor Uyehara; Assistant Professor Matsumoto; Instructor Watanabe.

100 Elementary Japanese. Reading and translation of language readers. Study of Katakana, Hiragana, and simple Chinese characters; composition and oral exercises. (3-3) Yr. Mr. Matsumoto, Mr. Watanabe.

101 Intermediate Japanese. Reading and translation of language readers. Study of more Chinese characters; composition; advanced oral exercises. (3-3) Yr. Mr. Uyehara, Mr. Matsumoto, Mr. Watanabe.


260 Japanese Literature in English. Historical analysis of Japanese thought through literature. Study of classics and contemporary works; drama; poetry; etc. (2-2) Yr. Mr. Uyehara.

299 Directed Reading or Research. (Ar.) Mr. Uyehara.

Korean

Lecturer Park.

100 Elementary Korean. Conversation, elements of grammar, reading. (3-3) Yr. Mr. Park.

101 Intermediate Korean. Conversation, reading, and writing. Some Chinese characters. (3-3) Yr. Mr. Park.
LIBRARY SCIENCE

Assistant Professor Crawford; Instructor Geiser.

260 Library Observation and Participation. An orientation to library routine conducted as a means of determining the student's aptitude for school library work. Laboratory periods arranged in Teachers College elementary and high school libraries. Students expecting to specialize in Library Science must register concurrently for Library Science 262 the first semester, and English 255 the second semester. (1-1) Yr. Miss Crawford, Mrs. Geiser.

262 Organization and Administration of School Libraries. Methods of organizing various types of library materials and keeping essential records. Objectives and contributions of the school library to the educational program. (3) I. Miss Crawford.

268 Cataloguing and Classification. Introduction to the principles of dictionary cataloguing, classifying according to the Dewey Decimal Classification system, assigning subject headings, and filing. Emphasis upon cataloguing and classifying children's books. Prerequisite: typing ability. (3) I. Miss Crawford.

269 Advanced Cataloguing. Practice in more detailed cataloguing problems for students planning to work in secondary school libraries, or for in-service students with some previous training or experience. Prerequisite: Library Science 268; consent of instructor. (2) II. Miss Crawford.

284 Book Selection and Reading Guidance. Principles and criteria of book selection; evaluation and selection of books in relation to reading interests of children and needs of the school curriculum. Ways of promoting the use of books for both informational and recreational reading. Prerequisite: English 255 or equivalent. (3) II. Mrs. Geiser.

286 Promoting Library Use. Methods of developing skills and interest in the use of books and libraries by means of library instruction, the use of puppets, dramatization, book talks, storytelling, club groups, and other publicity techniques. Prerequisites: Library Science 284; consent of instructor. (2) II. Miss Crawford.

354 Library Internship. Full-time service in laboratory or public school libraries under special supervision. Restricted to fifth-year students. Prerequisites: Library Science 260, 262, 268, 284; Education 254. (14) I and II. Mrs. Geiser.

MATHEMATICS

Visiting Professor Brand; Professor Holmes; Associate Professor Townes; Assistant Professors Gregory, McCall; Instructors Robertson, Mookini; Lecturer Johnson.

150 Plane Trigonometry. Prerequisites: two years of high school algebra; one year of plane geometry. (3) I and II. Staff.

151 College Algebra. Prerequisites: two years of high school algebra; one year of plane geometry. (3) I and II. Staff.
152 **PLANE ANALYTICAL GEOMETRY.** Prerequisites: Mathematics 150; credit or concurrent registration in Mathematics 151. (3) I and II. STAFF.

153 **DIFFERENTIAL CALCULUS.** Includes infinite series. Prerequisite: Mathematics 152. (3) I and II. MR. TOWNES, MR. GREGORY.

154 **INTEGRAL CALCULUS.** Includes space geometry. Prerequisite: Mathematics 153. (3) I and II. MR. BRAND, MR. TOWNES, MR. GREGORY.

155 **CALCULUS APPLICATIONS.** Includes partial differentiation, multiple integrals, differential equations. Prerequisite: Mathematics 154. (3) II. MR. TOWNES, MR. GREGORY.

156 **SPHERICAL TRIGONOMETRY.** Prerequisite: Mathematics 150 or the equivalent. (2) II. MR. HOLMES.

157 **ELEMENTARY STATISTICS.** Averages, frequency distributions, and allied statistical functions; probability theory. Designed for prospective statistical workers with a limited mathematical background. (3) I. MR. TOWNES.

252–253 **ADVANCED CALCULUS AND DIFFERENTIAL EQUATIONS.** Theory and application of ordinary, total, and partial differential equations. Fourier and other series; hyperbolic functions. Prerequisite: Mathematics 155 or the equivalent. (Not offered 1948–49.) (3–3) Yr. MR. GREGORY.

254–255 **APPLICATIONS OF HIGHER MATHEMATICS.** Differential equations, power and Fourier series, special integrals, vectors and tensors, complex variables, Laplace transforms, calculus of variation, matrix algebra. Prerequisite: Mathematics 155 or the equivalent. (3–3) Yr. MR. BRAND.

280 **STATISTICAL METHODS.** Correlation, introduction to theory of sampling and analysis of variance. Probability distribution of various statistics. Prerequisites: Mathematics 151 and 157. (3) II. MR. GREGORY.

286–287 **MATHEMATICS OF THEORETICAL PHYSICS.** Phenomenological foundations and mathematical formulation of the theories of quantum mechanics and relativity. Prerequisites: Mathematics 252–253; familiarity with the experimental aspects of modern physics. (3–3) Yr. MR. GREGORY.

299 **DIRECTED READING.** Prerequisite: consent of instructor. (Ar.) MR. GREGORY.

**MEDICAL TECHNOLOGY**

**LECTURER KENDALL.**

266 **MEDICAL TECHNOLOGY.** A practical course designed to present the technique of accepted laboratory procedures in accordance with hospital and public health standards. Two lectures and two laboratory periods a week. Prerequisites: Bacteriology 262, 264. Laboratory fee $5.00. (4) Summer Session. MRS. KENDALL.
267–268  **MEDICAL TECHNOLOGY.** Student technician training in a cooperating laboratory under the supervision of a qualified director. Prerequisite: Medical Technology 266. (12-12) Yr. MRS. KENDALL.

**MILITARY SCIENCE AND TACTICS**

**PROFESSOR BOND; ASSOCIATE PROFESSOR BOWER; ASSISTANT PROFESSORS CONMY, FRYE, HINMAN, WARNER; INSTRUCTORS HECKLINGER, CABRAL, HALL, LOCK, PERCEFULL, AZEVEDO, NICK, POMROY, RIDDLE.**

Military Science 100 and 101 must be taken by every physically fit male student who is a citizen, who is at least 14 years old, whose 27th birthday has not passed at the time of enrollment in the University, who is a freshman or sophomore or an unclassified student carrying more than 9 credit hours of work and having fewer than 64 college credits. Military Science is optional in the junior and senior years. The basic courses, or their equivalent, are required for advanced training. Completion of the four-year program leads to a commission in the Officer's Reserve Corps. Upon the recommendation of the college dean, veterans with one year's service or more may receive academic credit for Military Science 100 and 101. They are eligible for advanced courses upon approval by R.O.T.C. officials. Veterans who were discharged as commissioned officers may, upon recommendation of the college dean, receive up to 12 credits for advanced Military Science. Upon recommendation of the Military Science and Music Departments, students registered for Military Science 100 or 101 may be assigned to the Band as part of their military training program. Students not eligible for Military Science 100 or 101 who wish to participate in the Band must register for Music 266.

- **100 R.O.T.C. FIRST-YEAR BASIC COURSE.** Military organization, first aid, leadership and drill, weapons and marksmanship, maps and aerial photography, national defense act, and R.O.T.C. regulations. Three hours a week. Uniform rehabilitation fee 50 cents (not refundable). (1-1) Yr. COLONEL BOND, STAFF.

- **101 R.O.T.C. SECOND-YEAR BASIC COURSE.** Leadership drill and command, physical training, maps and aerial photography, military administration, military law, evolution of warfare. Three hours a week. Uniform rehabilitation fee 50 cents (not refundable). (2-2) Yr. COLONEL BOND, STAFF.

- **200 R.O.T.C. FIRST-YEAR ADVANCED COURSE.** Military leadership, psychology, and personnel management; leadership, drill, and exercise of command; geographical foundations of national power; military law and boards; communications; gunnery, technique of fire, fire control; motors and transportation; tactics; the military team; troop movements. Five hours a week. Open to selected students. Prerequisite: elementary course or equivalent. (3-3) Yr. COLONEL BOND, STAFF.

- **201 R.O.T.C. SECOND-YEAR ADVANCED COURSE.** Command and staff, military teaching methods, psychological warfare, national power, leadership drill and command, combined and joint operations, mobilization and demobilization, tactics, military problems of the United States. Five hours a week. Open to selected students. Prerequisite: Military Science 200. (3-3) Yr. COLONEL BOND, STAFF.
MUSIC 250  R.O.T.C. SUMMER CAMP. Field training, weapons operation and firing, camp organization and sanitation, physical training, field and combat problems. Camp attendance required between Military Science 200 and 201 unless authorized a deferment by R.O.T.C. staff. (2) COLONEL BOND, STAFF.

MUSIC

ASSOCIATE PROFESSOR RIAN; ASSISTANT PROFESSORS McCLAIN, VINE; INSTRUCTOR KAHANANUL

110 MUSIC APPRECIATION. An introduction to music from the listener's point of view, with special emphasis on orchestral literature from the classical through the modern period. Emphasis on listening to recorded music. Course fee $2.00. (3) I and II. MR. RIAN.

111 MUSIC APPRECIATION. A study of music from the listener's point of view with emphasis placed on opera, ensemble music, and modern trends. Prerequisite: Music 110. Course fee $2.00. (Not offered 1948–49.) (3) II.

150 RUDIMENTS OF MUSIC. The elements of musicianship covering terminology, notation, sight singing, and rhythmic and melodic dictation. A basic course for all prospective teachers. May be required of music majors who lack experience and training. (3) I and II. MR. McCLAIN.

159 INSTRUMENTAL MUSIC. Intended for students preparing to teach instrumental music. Designed to give a basic knowledge of the instruments of the band and orchestra. (1-1) Yr. MR. McCLAIN.

160–161 THEORY. A detailed study of scales, intervals, triads, and other elements of music. Exercises on given basses, harmonization of melodies, creative writing, melodic, rhythmic, and harmonic dictation, and keyboard harmony. Prerequisite: Music 150 or approval of the department chairman. (3-3) Yr. MR. VINE.

170–171 HISTORY AND LITERATURE OF MUSIC. A complete study of the development of music from the beginning of history up to the present time. Nationalities, schools, and composers in detail. Course fee $2.00. (Not offered 1948–49.) (3-3) Yr. MR. RIAN.

209 UNIVERSITY CHORUS. Three times per week. May be repeated. (1) I and II. MR. VINE.

210 UNIVERSITY A CAPPELLA CHOIR. Three times per week. May be repeated. (1) I and II. MR. RIAN.

251–252 MUSIC IN THE ELEMENTARY CURRICULUM. Organization and direction of music in childhood experience. A survey of materials and procedures. (3-3) Yr. MRS. KAHANANUL.

265 SIMPLE COUNTERPOINT. Writing in the five species in two, three, and four parts. Prerequisites: Music 160–161, 260–261. (Not offered 1948–49.) (3) I. MR. RIAN.

266 BAND. Three times per week. May be repeated. (1) I and II. MR. MCCLAIN.

267 ORCHESTRA. Three times per week. May be repeated. (1) I and II. MR. RIAN.

268 COMPOSITION. Free treatment of musical motives. Study of masterpieces. Composing in the different vocal and instrumental forms. Students admitted only upon recommendation of the department. Prerequisites: Music 160–161, 260–261. (Not offered 1948–49.) (3) II.

270–271 CONDUCTING. Designed to prepare conductors for school, community, and church music. Training and organizing chorals and instrumental groups, ensemble singing and playing, conducting technique, and choral and instrumental literature. Prerequisites: Music 160–161, 170–171, 210, 266, or approval of the department chairman. (3–3) Yr. MR. RIAN.

280–281 ORCHESTRATION. A course in arranging and composing for band, orchestra, and chamber groups. Prerequisites: Music 160–161, 170–171, 260–261, 266, 270–271, or approval of the department chairman. (Not offered 1948–49.) (3–3) Yr. MR. RIAN.

285–286 SCHOOL MUSIC. A course dealing with the objectives, materials, and procedures from preschool through high school. Intended for students in Teachers College who are concentrating on music. Others may register with approval of the department chairman. Prerequisites: Music 160–161, 170–171. (3–3) Yr. MR. RIAN.

APPLIED MUSIC

Instruction given in piano, organ, voice, and orchestral instruments in individual half-hour lessons either once or twice a week. Lessons are not made up unless the instructor is notified a reasonable time in advance of the absence. Lessons which occur on holidays are not made up.

Registration for lessons and choice of teachers must be approved by the department chairman.

One public appearance in each of the junior and senior years is required of all students majoring in music. This requirement may be satisfied by successful participation in weekly student recitals.

Assignment to applied music courses is based on tests and auditions given by the department during the Freshman Orientation Period. In order to receive credit in Applied Music courses a student must meet the following minimum requirements:

Satisfactory work in Music 160–161.
Piano—Play any major or minor scale in octaves, in sixteenth at M. M. quarter note—112; Bach Two Part Invention or dance from one of the suites; a sonata by Haydn, or Mozart; a modern composition of equal difficulty with the sonata.

Voice—Sing on pitch, with correct phrasing and musical intelligence, standard songs in good English. Demonstrate ability to read a simple song at sight and have a knowledge of the rudiments of music. Have a promising voice. (Some knowledge of piano is strongly recommended.)

Violin—Play major and minor scales, arpeggios, simple Kreutzer etudes, a sonata by Handel, Haydn, Mozart, or Schubert; a more modern work displaying special technique peculiar to the violin.

Organ—Same as piano.

Orchestral instruments other than violin. Entrance requirements may be had by writing the Music Department.

Fees Per Semester

<table>
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<tr>
<th>Description</th>
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<tbody>
<tr>
<td>One lesson each week (half hour)</td>
<td>$ 50.00</td>
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<tr>
<td>Two lessons each week (half hour each)</td>
<td>$ 90.00</td>
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<tr>
<td>Class lessons of two (half hour)</td>
<td>$ 25.00</td>
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<tr>
<td>Class lessons of five (half hour)</td>
<td>$ 10.00</td>
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Piano Rental Per Semester

<table>
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<tr>
<th>Description</th>
<th>Fee</th>
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</thead>
<tbody>
<tr>
<td>One hour per day</td>
<td>$ 6.00</td>
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</table>

Additional hours at same rate. No refunds on piano rental. Students are expected to own the smaller instruments. A limited number may be rented from the Music Department.

Courses

90 INDIVIDUAL INSTRUCTION. For students who fail to meet the minimum requirements of proficiency expected of college freshmen in piano, voice, organ, or orchestral instruments. (0–0) Yr. STAFF.

149 INDIVIDUAL INSTRUCTION. Piano, organ, voice, or orchestral instruments at the freshman level. (Ar.) Yr. STAFF.

169 INDIVIDUAL INSTRUCTION. Piano, organ, voice, or orchestral instruments at the sophomore level. (Ar.) Yr. STAFF.

249 INDIVIDUAL INSTRUCTION. Piano, organ, voice, or orchestral instruments at junior level. (Ar.) Yr. STAFF.

269 INDIVIDUAL INSTRUCTION. Piano, voice, organ, or orchestral instruments at the senior level. (Ar.) Yr. STAFF.

349 INDIVIDUAL INSTRUCTION. Piano, voice, organ, or orchestral instruments at the graduate level. (Ar.) Yr. STAFF.
ASSOCIATE PROFESSOR JONES; LECTURERS LEE, FISHER, HEWELL, WILBAR.

250 WARD MANAGEMENT. The study of hospital organization; the head nurse's and ward supervisor's relation to the various departments. The organization of the ward and management and supervision of ward personnel. (3) I. MISS FISHER.

251 WARD TEACHING. The discussion of the place of the ward supervisor and head nurse in carrying out the objectives of the general educational program of the school of nursing. Study of the opportunities, methods, and relationships involved in teaching students on the ward to plan for individualized nursing care. (3) II. MISS FISHER.

252 PROFESSIONAL ADJUSTMENTS. A discussion of common problems in professional relationships facing the student in the school of nursing, and the graduate nurse engaged in the field of education and administration. (Not offered 1948-49.) (3) I.

253 COMPARATIVE NURSING PROCEDURE. Evaluation of basic nursing procedures, with emphasis upon underlying scientific principles. (Not offered 1948-49.) (3) I.

256 MODERN TRENDS IN NURSING. A study of the historical development of nursing and nursing education as a basis for understanding its present status, and the factors which influence its progress. (3) I and II. MISS JONES.

261 METHODS OF TEACHING IN SCHOOLS OF NURSING. The application of principles of learning and methods of teaching to situations in schools of nursing, with special emphasis on current problems. (3) II. MISS FISHER.

262 STUDENT GUIDANCE IN SCHOOLS OF NURSING. Principles of guidance for nursing students, with emphasis on vocational guidance in the field of nursing. (Not offered 1948-49.) (2) II.

265 PRINCIPLES OF TEACHING IN SCHOOLS OF NURSING. A study of the fundamental processes in learning and teaching in the nursing field, with application to newer methods and techniques. (3) I. MISS FISHER.

271 MATERNAL AND CHILD HEALTH. The physiology and hygiene of pregnancy, labor, and the puerperium; development, growth, and physical and mental hygiene of childhood from fetus through school age; standards and procedures of maternity, infant, school, and adolescent health work. (2) I. MISS HEWELL.

280 PRINCIPLES OF PUBLIC HEALTH NURSING. The development, methods, and technique of public health nursing; emphasis on the social, preventive, and teaching aspects of service to the family and the community. (3) I. MISS JONES.

281 TEACHING IN PUBLIC HEALTH NURSING. Basic principles underlying teaching and learning; selection and organization of materials used in health teaching; methods used with groups and individuals. (2) I. MISS JONES.
282 Preventive Medicine. The public health aspects of certain preventable conditions. (3) I. Mr. Lee.

283 Public Health Organization and Administration. Principles of public health and their application in protecting and promoting the health and welfare of citizens through organized community effort. (2) I. Mr. Wilbar.

290 Field Program. Instruction and guided experience in home visiting for bedside and instructive care, in school health work, in maternal and child health conferences, and in chest and other clinics. Approximately 32 hours a week. (10) II. Miss Jones, Field Staff.

291 Social Work Concepts and Relationships. Methods of applying social work concepts to the work of public health nurses through the use of actual case material. Orientation to the field of social work by the study of agency relationships involving referral and conference procedures. (3) II.

PHILOSOPHY

Professors Moore, Shimer; Assistant Professor McCarthy.

100 Introduction to Philosophy. The problems, methods, and fields of philosophy, including comparison of Oriental and Western thought. (3) I and II. Mr. Shimer, Mr. McCarthy.

150 History of Philosophy. Western philosophy from era of great Greek thinkers to modern times. Prerequisite: sophomore standing. (3) I. Mr. Moore.

151 Modern Philosophy. Western philosophy from the Renaissance to the present day. Desirable preparation: Philosophy 150. (3) II. Mr. Moore.

200 Ethics—Philosophies of Life. Western philosophies and typical theories of the nature of the good life and of the basic values of human living; frequent comparative consideration of Eastern philosophies of life. No previous course in Philosophy is required. (3) I. Mr. Moore.

201 Ethics—Problems of Conduct. Practical problems of individual and social life; social and economic justice, crime and punishment, happiness, marriage and the family, etc. Philosophy 200 is desirable preparation, but is not required. (3) II. Mr. Moore.

210 Contemporary Philosophy. A study of recent developments in European and American philosophy. Prerequisites: Philosophy 150 and 151 or consent of instructor. (3) II. Mr. Shimer.

240 Philosophical Ideas in Contemporary Literature. Dreiser, Hemingway, Joyce, Proust, Thomas Mann, Franz Kafka, Malraux, Santayana, Bernanos, and Gide are studied as authors of philosophical fiction. (Not offered 1948–49.) (3) II.

252 Types of Philosophy. Study of such basic philosophies as Materialism, Dualism, Idealism, Mysticism, Pragmatism, Skepticism, etc. (3) I. Mr. McCarthy.
253 **PROBLEMS OF PHILOSOPHY.** Persistent specific problems of philosophy, primarily those concerning nature, man, God, etc. (3) II. MR. MCCARTHY.

262 **AESTHETICS.** What makes an experience satisfactory in art and in life. How imagination goes with technical skill and sense of materials. Standards of taste and criticism; how they are developed; the question of their finality or relativity. The place of art in our civilization in relation to science, industry, and democracy. (Not offered 1948–49.) (3) I.

265 **PHILOSOPHY, EAST AND WEST.** An introductory survey of the basic systems and methods of Eastern and Western philosophy, with special attention to similarities and contrasts. (Not offered 1948–49.) (3) I. MR. MOORE.

270 **INDIAN PHILOSOPHY.** Fundamental philosophical systems and movements in India, including the Vedas, Upanishads, and Six Systems of Hinduism and the unorthodox philosophies, Carvaka, Jainism, and Buddhism. Present-day tendencies will be considered. (3) I. MR. MOORE.

271 **CHINESE PHILOSOPHY.** A historical survey of the important philosophical schools and tendencies in China, ancient and modern. (3) II. MR. MOORE.

275 **PHILOSOPHY OF RELIGION.** The role of religion in a scientific age. The sources and validity of religious beliefs. The concepts of God, and other elements of various religions, including Hinduism, Buddhism, Confucianism, Judaism, Mohammedanism, Zoroastrianism, and Christianity. (3) I. MR. SHIMER.

280 **ELEMENTARY LOGIC.** Valid forms of reasoning; common fallacies; methods, validity, and difficulties of scientific reasoning. (3) I. MR. MCCARTHY.

281 **CONFUCIAN PHILOSOPHY.** A detailed study of the ethical, social, religious, educational, and metaphysical doctrines of Confucius, Mencius, Chu Hsi, etc.; their influence on Chinese culture; their position in modern China. (Not offered 1948–49.) (3) I.

282 **TAOIST PHILOSOPHY.** A detailed study of the metaphysical, ethical, political, religious, and aesthetic teaching of the great Taoist thinkers. (Not offered 1948–49.) (3) I.

283–284 **BUDDHIST PHILOSOPHY.** Buddhist philosophy in India, China, Korea, and Japan, and its influence on Far Eastern culture and thought. (Not offered 1948–49.) (2–2) Yr.

286 **SCIENCE AND THE MODERN WORLD.** A comprehensive study of the development of the scientific spirit and outlook as expressed in the writings of Lucretius, Copernicus, Bacon, Descartes, Comte, Darwin, Freud, and others. (3) I. MR. MCCARTHY.

287 **SCIENTIFIC METHOD.** A systematic study of the methods and grounds of reliable knowledge in the natural and social sciences and in philosophy. (3) II. MR. MCCARTHY.

288 **SYMBOLIC LOGIC.** Prerequisite: Philosophy 280. (3) II. MR. MCCARTHY.
299  **DIRECTED READING.** Reading, consultations, and written or oral reports; intended for advanced students and those with special interests. Prerequisite: consent of instructor. (Ar.) **STAFF.**

300  **READING AND RESEARCH.**  (Ar.) **STAFF.**

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**PHYSICS**

**PROFESSOR ELLER; ASSOCIATE PROFESSOR MIYAKE; ASSISTANT TOUPIN; GRADUATE ASSISTANT STEIGER.**

100  **ELEMENTS OF PHYSICS.** A course designed to meet the needs of students who do not intend further study of physics. May not be used as prerequisite to advanced physics courses. Two lectures and one demonstration period a week. Prerequisite: credit or concurrent registration in Mathematics 150. (3-3) Yr. MR. MIYAKE.

102  **COLLEGE PHYSICS.** Three lectures and one laboratory period a week. Prerequisites: Mathematics 150 and credit or concurrent registration in Mathematics 151. Laboratory fee $6.00 each semester. (4-4) Yr.

104  **ENGINEERING PHYSICS.** Three lectures, one laboratory period, and one problem working period a week. Prerequisite: Mathematics 153. Laboratory fee $6.00 each semester. (5-5) Yr. MR. ELLER, MR. TOUPIN.

151  **FUNDAMENTALS OF COMMUNICATION.** A general electricity course covering both DC and AC theory and applications with emphasis on communication circuits. Two lectures and one laboratory period a week. Prerequisite: Mathematics 150. Laboratory fee $6.00. (3) I. MR. MIYAKE.

153  **PRINCIPLES OF RADIO.** Fundamentals of radio theory and design, and construction of radio receiving and amplifying equipment. Two lectures and one laboratory period a week. Prerequisite: Physics 151. Laboratory fee $6.00. (3) II. MR. MIYAKE.

202  **ELECTRICAL ENGINEERING.** Study of electric power circuits and machinery, and the application of thermionic devices in power equipment. Two lectures and one laboratory period a week. Prerequisite: senior standing in Engineering. Laboratory fee $6.00 each semester. (3-3) Yr. MR. ELLER.

251  **MEDICAL PHYSICS.** A course for premedical students to acquaint them with the applications of physics to equipment for diagnosis, treatment, and research in medicine. Prerequisite: Physics 102. (3) II.

254  **ADVANCED RADIO.** Advanced radio theory and practice. Theory and design of the more complex radio equipment, including transmitters. Two lectures and one laboratory period a week. Prerequisites: Physics 153; Mathematics 154. Laboratory fee $6.00. (3) I. MR. MIYAKE.

255  **LIGHT.** Principles of geometric and physical optics. Prerequisites: Physics 102; Mathematics 154. (3) I.
256 **OPTICS LABORATORY.** Experiments in geometric and physical optics. One laboratory period a week. Prerequisite: credit or concurrent registration in Physics 255. Laboratory fee $6.00. (1) I.

258 **ELECTRONICS.** The theory and applications of electronic phenomena and electronic devices. Prerequisites: Physics 102; Mathematics 154. (3) I. MR. MIYAKE.

259 **SEISMOLOGY.** A study of sources and causes of earthquakes, transmission of seismic waves through the earth, and instruments used for their recording. Prerequisites: Physics 102; Mathematics 154. (3) I. MR. ELLER.

260 **GEOPHYSICS.** Studies in applied geophysics, including terrestrial magnetism, atmospheric electricity, and the ionosphere. Prerequisites: Physics 102; Mathematics 154. (3) II.

262 **SOUND.** Theory of sound and its applications. Prerequisites: Physics 102; Mathematics 154. (3) II. MR. MIYAKE.

263 **THEORETICAL MECHANICS.** Principles of statics and dynamics. Prerequisites: Physics 102; Mathematics 154. (3) I. MR. ELLER.

270 **HEAT.** A study of radiation, kinetic theory of gases, heat measurements, and the laws of thermodynamics. Prerequisites: Physics 102; Mathematics 154. (3) II. MR. MIYAKE.

275 **ELECTRICITY AND MAGNETISM.** Theory of electric and magnetic phenomena. Methods of electric and magnetic measurements. Three lectures and one laboratory period a week. Prerequisites: Physics 102; Mathematics 154. Laboratory fee $6.00. (4) II. MR. ELLER.

280 **A SURVEY OF MODERN PHYSICS.** The discoveries and advances in physics in the twentieth century, with some historical review of the discoveries of the nineteenth century. Prerequisite: Physics 102. Mathematics 154 desirable. (3) I.

281 **ATOMIC AND NUCLEAR PHYSICS.** A study of the structure of the atom and its nucleus, radioactivity, and the energy relationships involved. Prerequisites: Physics 102; Chemistry 103; Mathematics 154 recommended but not required. (3) II.

299 **READING OR LABORATORY WORK IN ADVANCED PHYSICS.** Prerequisite: consent of instructor. (Ar.) STAFF.

300 **DIRECTED READING OR RESEARCH.** Prerequisites: graduate standing in physics; consent of instructor. (Ar.) STAFF.

302 **THEORETICAL PHYSICS.** The dynamics of rigid bodies and fluids, origin of spectra, and electromagnetic theory. Prerequisites: Mathematics 253; advanced work in mechanics, light, and electricity and magnetism. (3–3) Yr.
PORTUGUESE

ASSISTANT PROFESSOR ELLIOTT.

100 ELEMENTARY PORTUGUESE. Conversation, essentials of grammar, reading of a Brazilian novel; emphasis upon phonetics, differences between the speech of Portugal and that of Brazil and between Portuguese and Spanish. (3-3) Yr. MR. ELLIOTT.

101 INTERMEDIATE PORTUGUESE. Introduction to Portuguese literature; study of Os Lusíadas; selected readings from representative authors of Portugal and Brazil. Review of grammar; conversational practice. Prerequisite: Portuguese 100 or the equivalent. (3-3) Yr. MR. ELLIOTT.

PSYCHOLOGY

PROFESSORS LIVESAY, HERRICK, WHITE; ASSOCIATE PROFESSORS FORBES, HALPERIN; ASSISTANT PROFESSORS PEIXOTTO, VINACKE, BITNER, BRIGGS, SPRINGER; INSTRUCTOR NITTA; GRADUATE ASSISTANTS CARSON, SMITH, LINDERFELT, WILKINSON.

Psychology 150 (or the equivalent) is prerequisite to all other courses in Psychology, with the exception of 100 and 156.

100 PSYCHOLOGY OF EFFECTIVE STUDY. The application of psychological principles to effective study. Problems in self-management and college adjustment. (3) I and II. MR. BITNER, MR. BRIGGS, MISS NITTA.

150 GENERAL PSYCHOLOGY. A survey of the facts and principles fundamental to human behavior. Three lectures and one laboratory period a week. Laboratory fee $1.00. (4) I and II. MR. LIVESAY, MR. FORBES, MR. VINACKE, MR. BRIGGS, MRS. SPRINGER.

156 INTRODUCTION TO PSYCHOLOGY. Similar to Psychology 150 but with particular attention to the topics of importance to prospective teachers. Lectures and demonstrations. Open only to students in Teachers College. (3) I. MRS. SPRINGER.

185 DEVELOPMENTAL PSYCHOLOGY. Emotional, mental, physical, and social development of the child from infancy through adolescence; interests and abilities at the different age levels. (3) II. MRS. SPRINGER.

250 APPLIED PSYCHOLOGY. Application of psychological principles to problems of personal efficiency and to the fields of education, law, medicine, traffic safety, and aviation. (3) II. MR. FORBES.

254 PRINCIPLES OF GUIDANCE. Psychological bases; methods and scope of educational, vocational, and personal guidance. Desirable preparation: Psychology 260, 292, and 295. (3) I. MR. BEYERS.

256 BUSINESS AND INDUSTRIAL PSYCHOLOGY. Psychological factors involved in advertising and salesmanship, and in the selection and control of personnel. (3) I. MR. FORBES.

257 PRINCIPLES OF COUNSELING. Counseling as a technique in individual guidance. Need; objectives; psychological bases of counseling; procedures; available services. Prerequisite: Psychology 254 or consent of instructor. (3) II. MR. BEYERS.
260 STATISTICAL TECHNIQUES IN PSYCHOLOGY. Use of statistical techniques in psychological problems: measures of central tendency and variability; graphic methods; reliability of measures and scores; zero order correlation. (3) I. MRS. SPRINGER.

264 PSYCHOLOGICAL MEASUREMENTS. The construction and administration of psychological tests and scales and the interpretation and application of scores and measures derived from such instruments. (3) II. MR. BRIGGS.

267 EXPERIMENTAL PSYCHOLOGY. Training in laboratory techniques. Experiments in cutaneous sensation, vision, audition, physiological indications of emotion, conditioned responses, and motor and verbal learning processes. Desirable preparation: Psychology 260 or the equivalent. Laboratory fee $2.00. (3) I and II. MR. FORBES.

270 PHYSIOLOGICAL PSYCHOLOGY. A study of the physiological processes as related to an understanding of such activities as vision, hearing, learning, emotion, memory, and thinking. Desirable preparation: Psychology 267. (3) I. MR. FORBES.

275 SYSTEMATIC PSYCHOLOGY. The various systems of psychology; existentialism, functionalism, behaviorism, purposivism, and Gestalt. (3) II. MR. VINACKE.

280 SOCIAL PSYCHOLOGY. The psychology of human relations; psychological factors that determine the behavior of an individual in his social relationships. (3) II. MR. VINACKE.

283 PSYCHOLOGY OF PERSONALITY. The development of personality; theories and evidence as to what constitutes personality; critical evaluation of instruments used in measuring personality characteristics. (3) I and II. MR. VINACKE.

286 POLITICAL PSYCHOLOGY. An analysis of the voter, the politician, political strategy, and problems which arise in the conduct of government. (3) I. MR. VINACKE.

290 CLINICAL PSYCHOLOGY. Methods and scope of clinical psychology, including a review of available tests and other instruments used in measuring intelligence, interests, and aptitudes. Prerequisite: Psychology 260. (3) I. MISS PEIXOTTO.

291 CLINICAL PSYCHOLOGY. A continuation of Psychology 290 with stress upon the types of problems encountered in clinical practice. Prerequisite: Psychology 290 or consent of instructor. (3) II. MISS PEIXOTTO.

292 MENTAL HYGIENE. Conditions requisite to mental health and satisfactory social adjustment; causes and means of preventing maladjustments and neuroses. (3) I and II. MRS. SPRINGER.

295 ABNORMAL PSYCHOLOGY. The nature and causes of psychoneuroses and psychoses; incipient abnormal traits manifested in everyday life; psychotherapy. (3) I and II. MR. BRIGGS.

299 DIRECTED READING. Prerequisite: consent of instructor. (Ar.) STAFF.

300 DIRECTED READING OR RESEARCH. Prerequisite: graduate standing. (Ar.) STAFF.
320 Graduate Seminar. Selected topics as determined by the needs and interests of the group. Opportunity will be given for the presentation of thesis problems. Required of all candidates for the M.A. degree. Prerequisite: consent of instructor. (2-2) Yr. Mr. Forbes.

351 Advanced Educational Psychology. Application of experimental evidence in psychology to major educational problems; the bearing of recent psychological theories upon education. (2) I and II. Mr. White.

356 Problems in Clinical Psychology. Clinical case studies: histories; selection of tests; interview methods; interpretation; recommendations and follow-up. Prerequisite: consent of instructor. (3) I and II. Mr. Herrick.

362 Individual Intelligence Test Techniques. Practice in the administration and interpretation of individual tests such as the Terman-Binet, Wechsler-Bellvue, Preschool Scales, Detroit, etc. May be repeated. Prerequisite: consent of instructor. Laboratory fee $5.00. (3) I. Mr. Herrick.

364 Projective Techniques—Introductory. The basic theory of and practice in projective testing and clinical practice, with special attention to the Rorschach, T.A.T., and Bender Gestalt tests. Prerequisite: consent of instructor. Laboratory fee $3.00. (3) I. Mr. Halperin.

367 Projective Techniques—Advanced. Discussions supplementing intensive clinical practice, with emphasis upon the interpretations of projective test results. Prerequisite: consent of instructor. Laboratory fee $3.00. (3) II. Mr. Halperin.

382 History of Psychology. The development of psychology from ancient to modern times, with particular attention to the origins of the various theories. (3) I. Mr. Briggs.

RELIGION

Professor Zeigler; Lecturers Hoskinson, Mark, Kwock.

150 Introduction to the Study of Religion. The nature of religion and its relationship to other areas of life and thought. (3) I. Mr. Zeigler.

151 Problems in Religious Thought. The ways in which religious faith has been undergirded by rational thought; emphasis upon modern developments. (3) II. Mr. Zeigler.

200 Old Testament Survey. The Old Testament from the literary and philosophical points of view; emphasis on practical values of the book for life today. (3) I. Mr. Hoskinson.


208 The Life of Jesus. A study of the known life of Jesus; emphasis on the great central issues. (2) I. Mr. Zeigler.
209 THE TEACHINGS OF JESUS. A study of the known teachings of Jesus; their philosophical and practical implications. (2) II. MR. ZEIGLER.

210 LIVES AND TEACHINGS OF THE OLD TESTAMENT PROPHETS. The thought of the five great prophets studied from the angle of their own historical situation, and with consideration of the permanence of their message. (Not offered 1948–49.) (2) I.

215 HISTORICAL DEVELOPMENT OF THE BIBLE. Survey of the present knowledge of the origin and development of the English Bible in the light of historical, archaeological, and literary research. (Not offered 1948–49.) (2) II.

240–241 CHRISTIAN CHURCH IN HISTORY. Survey of the history of the church as an institution; its relationship to other lines of human development. (3–3) Yr. MR. ZEIGLER, MR. KWOCK.

250–251 A COMPARATIVE STUDY OF RELIGIONS. Origin, development, literature, practices, and major ideas of the great religions. Reading in the sacred literature of the great religions. (3–3) Yr. MR. KWOCK, MR. ZEIGLER.

260 RELIGION AND PSYCHOLOGY. Analysis of religious behavior from the psychological point of view, dealing with its appearance in its most significant forms. (Not offered 1948–49.) (2) I.

271 RELIGION AND LITERATURE. Interpretations of religion that have appeared in the literature of the English-speaking world. (Not offered 1948–49.) (2) II.

272–273 RELIGION AND THE ARTS. The influence of religion upon the arts such as architecture, painting, music, literature, poetry, and drama; and the contributions of the arts to religion. An appreciative yet critical approach to religion and its role in the social process. (3–3) Yr. MR. MARK.

SOCIAL WORK

PROFESSORS HANDLEY, LIND; ASSOCIATE PROFESSOR LYLE; ASSISTANT PROFESSORS KITZMILLER, MCDONALD; LECTURERS HEWELL, GUENSBERG.

200 THE FIELD OF SOCIAL WORK. A non-professional orientation course intended to acquaint the student with the philosophy, scope, and aims of contemporary social work. Prerequisite: junior standing. (3) I and II. MRS. KITZMILLER.

305 SOCIAL CASE WORK. An introduction to the basic principles and processes of social case work. Selected case records are used as material for study and discussion. (3) I. MRS. HANDLEY.

306 SOCIAL CASE WORK. A continuation of Social Work 305, with special emphasis upon social diagnosis and skill in the treatment of case work problems. To be taken concurrently with Social Work 360–361. Prerequisite: Social Work 305. (3) II. MRS. HANDLEY.

308 SOCIAL GROUP WORK. An introduction to the basic principles and processes of group work. (3) II. MISS LYLE.
309 **SOCIAL GROUP WORK.** Group work as a method of and resource in social treatment. Analysis of the group work process with the use of selected records. To be taken concurrently with Social Work 360–361. Prerequisite: Social Work 308. (Not offered 1948–49.) (3) II.

310 **DYNAMICS OF HUMAN BEHAVIOR.** Personality growth and development from infancy through old age. Interpretation of the individual's behavior in the light of physical, psychological, and social factors which have contributed to his maladjustment. (2) I. MR. GUENSBERG.

315 **COMMUNITY ORGANIZATION.** The process of community organization. A study of methods used in the field of social work. A description and analysis of types of agencies and services primarily concerned with community organization. (2) II. MISS LYLE.

325 **CHILD WELFARE.** Survey of the development of specialized services for children in both public and private fields, including the consideration of current practice. Illustrative material will be drawn from various fields of child welfare service. (2) II. MRS. KITZMILLER.

330 **HEALTH AND DISEASE.** This course emphasizes social work problems associated with illness; the personal and social implications of illness and of the treatment of diseases. (2) II. MISS HEWELL.

350 **INTRODUCTION TO PUBLIC WELFARE.** The development of the field of public welfare with major emphasis upon the public assistance programs. Historical background and current developments are discussed. (2) I. MR. MCDONALD.

351 **SOCIAL INSURANCE.** A study of old age, unemployment, workmen's compensation, invalidity, and health insurance in the United States. Social insurance legislation and administration are discussed, with consideration of coverage, contributions, and benefits. (2) II. MR. MCDONALD.

352 **SOCIAL STATISTICS AND RESEARCH.** This course is concerned primarily with problems and procedures in social research that are part of social work administration and planning. Emphasis upon the application of elementary statistical techniques to the particular problems of describing the social needs and social services of the community. (2) I. MR. LIND.

353 **LEGAL ASPECTS OF SOCIAL WORK.** The principles of law with which the social worker should be familiar. Problems in judicial administration and substantive law that affect individuals in relation to social problems. (2) II.

355 **PUBLIC WELFARE ADMINISTRATION.** Public welfare services with special reference to federal–state–local relationships; problems of organization and administration, and responsibility and authority are developed. Policies with respect to integration, centralization, finance, research, planning, and staff development are studied. (3) II. MR. MCDONALD.
360–361 Supervised Field Work. University field work units are maintained in public and private welfare agencies. The minimum time requirement in field work is 15 hours a week. To be taken concurrently with a social work method course (case work, group work, or community organization). Limited to full-time students. (4–4) Yr. Staff.

Sociology

Visiting Professor Steiner; Professor Lind; Associate Professor Cheng; Assistant Professor Hormann; Graduate Assistants Yamamoto, Giltner.

151 Introduction to the Study of Society. An orientation course. The basic social relationships and the corresponding social structures. (3) I and II. Mr. Lind, Mr. Hormann, Mr. Cheng.

156–157 Introduction to the Study of Man and Society. An orientation course in anthropology and sociology for prospective teachers. Designed to provide an understanding of human relations and social institutions as related especially to the problems of education. Open only to students in Teachers College. (Not offered 1948–49.) (2–2) Yr.

250 Community Forces. The basic factors and forces operating in contemporary society, with special attention to Hawaii. Open only to Teachers College and Vocational Home Economics students, except by consent of instructor. (3) I. Mr. Hormann.


254 The Urban Community. Sociological principles applied to the modern city. Structure, growth, social and personal life organization in an urban setting, with special reference to Honolulu. Field trips. Prerequisite: Sociology 151. (3) II. Mr. Steiner.

255 Social Disorganization. The factors in contemporary society that condition personal and social disorganization; an introduction to problems of conflict, delinquency, dependency, and degeneracy; Field trips. (3) II. Mr. Hormann.

256 Race and Culture Contacts in Hawaii. The dominant conceptions of race and race relations in Hawaii and an analysis of the principal factors affecting them. Problems of culture contacts in a commercial and plantation frontier. (2) I. Mr. Lind.

257 Race Relations in the Pacific. A survey of typical situations of race and culture contacts in the Pacific area. (3) II. Mr. Steiner.

258 Race Relations. The sociological significance of race and race relations; typical situations and processes; race relations cycle; conflict and accommodations; caste; race prejudice; the marginal man; miscegenation. (3) I. Mr. Steiner.

259 Peoples and Institutions of Japan. Social change in the institutional patterns and attitudes of different social classes in Japan, with special attention to the accelerated change under the army of occupation. (3) I. Mr. Steiner.
262 SOCIAL CONTROL. A survey of the devices for subjecting the individual and the group to broader social definitions. The role of tradition, ceremonial, and dogma in the socialization and discipline of the individual. Prerequisite: Sociology 151. (Not offered 1948–49.) (3) I.

263 PUBLIC OPINION AND THE COMMUNITY. Analysis of the nature and functions of public opinion in the contemporary world. Formation and polling of public opinion. Problems of interviewing and sampling. Prerequisite: Sociology 151. (3) II. MR. CHENG.

265 CRIMINOLOGY. The nature, causes, and treatment of crime with special attention to juvenile delinquency; theories of punishment and rehabilitation; modern preventive work. Prerequisite: Sociology 151. (Not offered 1948–49.) (3) I.

266 SOCIAL INSTITUTIONS. The natural history of institutions; the origin, structure, functions, growth, and decline of certain contemporary institutions. (3) I. MR. CHENG.

267 THE FAMILY. The family as a universal institution; human nature and the family; changing structure and functions in the Orient and the Occident; courtship and marriage in the immigrant family. Prerequisite: Sociology 151. (3) II. MR. CHENG.


269 PERSONALITY AND CULTURE. The origin and development of personality as the subjective aspect of culture; the function of communication; human nature and the mores; personal life organization and disorganization. Prerequisite: Sociology 151. (Not offered 1948–49.) (3) I.

270 POPULATION AND SOCIETY. Society analyzed in terms of the quantitative and qualitative aspects of population. Sociological aspects of birth and death rates, natural increase, and mobility. Prerequisite: Sociology 151. (3) I. MR. STEINER.

271 HUMAN ECOLOGY. Basic concepts, principles, and techniques of human ecology. Factors affecting distribution and movement of population, utilities, and social institutions. Prerequisite: Sociology 151. (Not offered 1948–49.) (3) I.

272 COLLECTIVE BEHAVIOR. Elementary and spontaneous forms of group behavior; social unrest; social contagion; the crowd and the public; mass and social movements; fashion, reform, and revolution. Prerequisite: Sociology 151. (Not offered 1948–49.) (3) I.

274 SOCIAL CHANGE. The nature of and the major factors affecting social change; war as illustrating social change; the role of invention and science; social forecasting. (3) I. MR. CHENG.

275 AMERICAN SOCIETY IN TRANSITION. The major trends in American society, particularly as reflected in the war and postwar periods. (Not offered 1948–49.) (3) II.
282 METHODS OF SOCIAL RESEARCH. The values and limitations of the common methods of social research for various types of studies. Laboratory and field work. Prerequisite: nine credits in sociology or consent of instructor. (Not offered 1948–49.) (3) II.

299 DIRECTED READING. Prerequisite: consent of instructor. (Ar.) STAFF.

300 DIRECTED READING OR RESEARCH. Prerequisites: graduate standing; consent of instructor. (Ar.) STAFF.

351 GRADUATE SEMINAR. Open to senior and graduate students with consent of instructor. (2–2) Yr. MR. LIND, MR. HORMANN.

SPANISH

PROFESSOR PECKER; ASSISTANT PROFESSOR ELLIOTT; INSTRUCTORS ROTH, KNOWLTON.

100 ELEMENTARY SPANISH. Conversation, essentials of grammar, Spanish and Latin-American readings; emphasis upon the oral aspect of the language. (3–3) Yr. MR. PECKER, MR. ELLIOTT, MRS. ROTH, MR. KNOWLTON.

101 MODERN SPANISH LITERATURE. Works of Galdos, Valera, Pereda, Ibanez, and others; conversation and composition; review of grammar; commercial correspondence. Prerequisite: a year of college Spanish or the equivalent. (3–3) Yr. MRS. ROTH, MR. KNOWLTON.

252 MODERN SPANISH NOVEL. Rapid reading; advanced work in composition and conversation; review of grammar. Prerequisite: two years of college Spanish or the equivalent. (2) I. MR. PECKER.

253 MODERN SPANISH DRAMA. Rapid reading of modern Spanish plays; continued work in composition, diction, and conversation. Prerequisite: Spanish 252. (2) II. MR. PECKER.

254–255 LATIN-AMERICAN LITERATURE. Emphasis on Mexico. Advanced composition; outside reading on assigned topics. Prerequisite: two years of college Spanish or the equivalent. (Not offered 1948–49.) (2–2) Yr. MR. PECKER.

299 DIRECTED READING. Reading of the latest Spanish publications. Prerequisite: consent of instructor. (Ar.) Yr. MR. ELLIOTT.

SPEECH

PROFESSORS SMITH, SIMON; ASSOCIATE PROFESSORS MATTINGLY, PARRY, WHITE; ASSISTANT PROFESSORS CORNWELL, ERNST, KRANTZ, TRAPIDO; INSTRUCTORS ARNOLD, AWAMURA, BENTLEY, BLOMFIELD, LARSON, LEFFORGE, RAMSAY, WONG; ASSISTANTS BRENEMAN, JENKINS; GRADUATE ASSISTANTS COLEMAN, FOX, FUJIMOTO, LEWIS, MURASHIGE, OLSEN, THOMPSON, NESLEN.
100 FUNDAMENTALS OF SPEECH. A general introduction to speech as communication. Information concerning speech and speech production; discussion of standards of acceptable student practice in speech performance. Required of all freshmen in Teachers College and of freshmen in other colleges unless excused. Course fee $1.00. (1) I and II. STAFF.

101 SOUNDS AND RHYTHMS OF SPOKEN ENGLISH. Intensive training in the sounds and rhythms of general American speech. Continued emphasis on the effective communication of ideas. Required of all freshmen in Teachers College and of freshmen in other colleges unless excused. Course fee $1.00. (1) I and II. STAFF.

102 DEVELOPMENT OF ORAL SKILL. The effective use of speech sounds and rhythms in practical speaking situations. Attention to correct English idiom and grammar. Required of all sophomores in Teachers College and of sophomores in other colleges unless excused. Course fee $1.00. (1) I and II. STAFF.

103 ORAL COMMUNICATION. Practical experience in using speech communication in a wide variety of forms. Required of all sophomores in Teachers College and sophomores in other colleges unless excused. Course fee $1.00. (1) I and II. STAFF.

140 DRAMATIC PRODUCTION. A basic course for those interested in any aspect of backstage work or stage direction. Staging, lighting, properties, some attention to costumes, make-up, business, and publicity. Coordinated with the productions of the University Theatre Guild. Required of all theater majors and recommended to students who do not expect to take other work in theater. (3-3) Yr. MR. TRAPIDO, MR. ERNST.

150 PUBLIC SPEAKING. Basic principles of speech composition and delivery; preparation and delivery of speeches with attention to principles studied; special attention to individual problems. (3) I and II. MISS ARNOLD, MR. CORNWELL, MR. LEFFORGE.

151 ADVANCED PUBLIC ADDRESS. Special attention to speech composition; persuasive speaking adapted to the audience and the occasion; study and delivery of deliberative, professional, social, and ceremonial speeches. Prerequisite: Speech 150. (3) II. MR. CORNWELL.

201 PRINCIPLES OF EFFECTIVE READING. Study of relationship between silent and oral reading with intensive practice in getting and giving meanings from the printed page. (3) I. MR. SMITH.

204 TRAINING OF THE SPEAKING VOICE. A study of the physical and physiological bases of voice production with special emphasis on the vocal problems of nasality, inaudibility, and monotony. Prerequisites: Speech 100 and permission of the instructor or recommendation of the department. (2) II. MRS. MATTINGLY.

220 PHONETICS. English phonetics as applied to articulation, standards of pronunciation, the teaching of speech, speech correction, and dialect study. (3) I. MR. SMITH.
221 PRINCIPLES OF SPEECH CORRECTION. First semester: study of types of therapy employed in minor disorders of speech with special attention to dialectal problems; second semester: study of rehabilitation employed in major disorders of speech. Prerequisite: consent of instructor. (3-3) Yr. MR. PARRY.

222 SPEECH THERAPY. An intensive course in testing and remedial procedures. Review of applicable test forms and testing techniques; methods of diagnosis of speech difficulties; individual work with speech problems. Prerequisite: Speech 221. (3) I. MR. SIMON.

223 ADVANCED SPEECH THERAPY. Continuation of Speech 222. Study of the pedagogical principles involved in lesson planning for individual and group work; forms and practices in university, hospital, and public school programs. Prerequisites: Speech 222 and consent of instructor. (3) II. MR. SIMON.

228 SEMANTICS. The role of language in human understanding. A study of verbal meaning and implication. Practice in the use of language for clarity, accuracy, and proper evaluation. (3) II. MR. CORNWELL.

230 ORAL READING. Principles of and individual practice in getting and giving meanings of the written and printed word. Course fee $1.00. (Ar.) I and II. MR. SMITH.

231 ORAL INTERPRETATION. Continuation of Speech 230. Prerequisite: Speech 230. Course fee $1.00. (Ar.) I and II. MR. SMITH.

232 ADVANCED INTERPRETATION. Study of literary forms and intensive practice in reading examples of them aloud. Prerequisites: Speech 201 or 231; two semesters of literature. (3) II. MR. SMITH.

234 RADIO SPEAKING. Study of radio broadcasting as a special form of speech, with consideration of the problems of communication and interpretation arising from the nature of the radio audience and conditions of radio listening. Prerequisite: Speech 230. (3) II. MR. WHITE.

241 ACTING. Analysis and interpretative reading of dramatic prose and poetry; related principles of stage production; reports; individual exercises and group rehearsal. Coordinated with productions of the University Theatre Guild. (3-3) Yr. MR. TRAPIDO, MISS BENTLEY.

242 THEORY AND PRACTICE OF DIRECTION. Readings, reports, individual exercises in stage direction, casting, and rehearsal of short plays for studio production. (3-3) Yr. MR. ERNST.

243 STAGECRAFT. A detailed course in the principles and practices of modern stagecraft: theories of stage production; planning of small theaters; stage arrangement; problems and practice in scene construction and stage lighting. Laboratory fee $5.00. (Not offered 1948-49.) (3-3) Yr. MR. TRAPIDO.

244 HISTORY OF THE THEATER. A survey of the development of the theater from the earliest times to the present day. Readings, discussions, lectures, slides. Laboratory fee $2.50. (Not offered 1948-49.) (3) II. MR. ERNST.
245 AESTHETICS OF THE THEATER. Consideration of the principal theories, with
detailed analyses and student reports. (Not offered 1948–49.) (3–3) Yr. MR. ERNST.

246 MODERN THEORIES OF STAGE PRESENTATION. Recent and current theories
of production critically analyzed and reviewed. (Not offered 1948–49.) (3) I. MR. 
ERNST.

250 DISCUSSION. Procedures in various forms of modern group discussion studied
in application to current problems. (3) I. MR. CORNWELL.

251 DEBATING. Procedures in debating with practice in analysis, briefing, and
delivery. (3) II. MR. CORNWELL.

262 SPEECH IMPROVEMENT. Techniques of speech improvement for use in the
classroom, with special attention to the treatment of speech problems in Hawaii.
Required of Teachers College seniors. (1) I and II. MRS. KRANTZ, MR. PARRY.

265 SPEECH PROBLEMS IN THE CLASSROOM. Analysis of local needs and appli-
cation of appropriate methods for meeting them. (2) II. MR. SIMON.

295 RHETORIC. Consideration of the underlying principles of discourse as
revealed in ancient and modern theories of rhetoric. Required of all majors and minors
in speech. Prerequisite: consent of instructor. (3) I. MR. CORNWELL.

298 SPECIAL PROBLEMS. Open only to speech majors. Prerequisite: consent of
instructor. (Ar.) I and II. MR. CORNWELL, MR. ERNST, MR. PARRY, MR. SIMON,
MR. SMITH, MR. TRAPIDO, MR. WHITE.

299 DIRECTED READING. Open only to speech majors. Prerequisite: consent of
instructor. (Ar.) I and II. MR. CORNWELL, MR. ERNST, MR. PARRY, MR. SIMON,
MR. SMITH, MR. TRAPIDO, MR. WHITE.

300 RESEARCH. Graduate study in (a) Phonetics and Speech Correction;
(b) Interpretation; (c) Forensics and Public Address; (d) Dramatics. Designed primarily
for students working on thesis topics. A total of six credits may be earned in this course.
Prerequisites: undergraduate major in speech or the equivalent; consent of the adviser.
(Ar.) I and II. MR. CORNWELL, MR. ERNST, MR. PARRY, MR. SIMON, MR. SMITH,
MR. TRAPIDO, MR. WHITE.

310 SEMINAR IN RESEARCH TECHNIQUES AND METHODS. Reading and student
problems for familiarity with bibliographies, research methods, and analysis and
reporting of data. (3–3) Yr. MR. SIMON, STAFF.

320 SEMINAR IN SPEECH CORRECTION. Extensive reading and research problems
in the etiology and therapy of speech deviations. (3–3) Yr. MR. SIMON, STAFF.

330 SEMINAR IN INTERPRETATION. This seminar will be held from time to time
as justified. Review of current literature in interpretation; preparation of reports.
Prerequisite: consent of instructor. (3) I and II. MR. SMITH, STAFF.

340 SEMINAR IN DRAMATICS. This seminar will be held from time to time as
justified. Review of literature in dramatics; preparation of reports. Prerequisite:
consent of instructor. (3) I and II. MR. ERNST, MR. TRAPIDO, STAFF.
350 Seminar in Rhetoric and Public Address. This seminar will be held from time to time as justified. Review of studies in rhetoric and public address; preparation of reports. Prerequisite: consent of instructor. (3) I and II. Mr. Cornwell.

SURVEY COURSES

Professors Palmer, De Laubenfels, St. John; Graduate Assistant Brand.

100 A Survey of the Natural Sciences. Items from various fields of natural science selected to illustrate what is known and how it has been learned. The materials for the first semester are drawn from the physical sciences, and for the second semester from the biological sciences. Students may enter the second semester by consent of instructor. (3-3) Yr. Mr. Palmer.

150 Introduction to the Natural Sciences. An overview of the natural sciences designed to give the student insight into scientific method and the basic subject matter of the various fields of science in their interrelationships. Lectures, discussions, demonstrations, and laboratory. Laboratory fee $5.00. Open only to students in Teachers College. (3) I. Mr. De Laubenfels.

151 Introduction to the Natural Sciences. A continuation of Survey 150. Laboratory fee $5.00. Open only to students in Teachers College. (3) II. Mr. De Laubenfels.

152 Introduction to the Natural Sciences. A continuation of Survey 151. Laboratory fee $5.00. Open only to students in Teachers College. (3) I and II. Mr. De Laubenfels.

250 History of Science. Progress and discoveries in physical and biological science from ancient to modern times. Readings and reports. Prerequisites: junior standing; two semesters of biological or physical science, one of which must include laboratory work. (2) I. Mr. St. John.

ZOOOLOGY AND ENTOMOLOGY

Professors Tester, Holdaway, Alicata, De Laubenfels; Associate Professors Hiatt, Scheer, Matthews, Tuthill, Hardy; Assistant Professors Banner, Heizer; Lecturer Carter; Graduate Assistants Schwabe, Reintjes, French, Moore, Woodworth, Hennacy, Townsley.

100 General Zoology. Zoological principles; studies of structure, development, relationships, and distribution of animals. This course and Botany 100 comprise an introduction to the biological sciences. Two lectures and two laboratory periods a week. Laboratory fee $6.00. (4) I and II. Mr. Hiatt, Mr. Matthews, Staff.

110 Principles of Human Biology. Biological principles relating to man; emphasis on man's place in nature, the structure and function of the organ systems, human diseases, how and what we inherit, human evolution and eugenics, and the biological aspects of human behavior. Not open to students who have had Zoology 100. Three lectures a week. (3) I. Mr. Matthews.
151 COMPARATIVE ANATOMY OF THE VERTEBRATES. Study of the structure and relationship of the vertebrate groups and discussion of typical vertebrates. Two lectures and two laboratory periods a week. Prerequisite: Zoology 100. Laboratory fee $8.50. (4) II. STAFF.

170 GENERAL ENTOMOLOGY. Structure, habits, biology, and classification of insects. Emphasis on insects characteristic of Hawaii. Studies of insects in the field, and laboratory studies with living insects. Two lectures and two laboratory periods a week. Prerequisite: Zoology 100 or Botany 100; both are recommended. Laboratory fee $3.00. (4) I and II. MR. TUTHILL, MR. HARDY.

240 INTRODUCTION TO ECOLOGY. The relationship between animals and between animals and their environment, with special emphasis on reef and shore fauna, insects, and terrestrial vertebrates. Two lectures a week. Prerequisite: Zoology 100. (2) I. MR. HIATT, MR. HOLDAWAY.

245 VERTEBRATE NATURAL HISTORY. The natural history, ecology, and distribution of Hawaiian vertebrates, with special emphasis on the reef and shore fishes and the avifauna. Two lectures, one laboratory, and one field trip a week. Prerequisite: Zoology 100. Desirable preparation: Zoology 240. Laboratory fee $5.00. (3) I.

251 CYTOLOGY. Survey of the structural and functional organization of cells and the relation of this organization to metabolism, growth, reproduction, heredity, evolution. Two lectures and two laboratory periods a week. Prerequisite: Zoology 260. Laboratory fee $8.00. (Not offered 1948-49.) (3) I. MISS HEIZER.

253 PARASITOLOGY. A study of the general field of parasitology with special reference to the parasites and parasitic diseases affecting man; emphasis on classification, comparative morphology, life history, and control. Two lectures and two laboratory periods a week. Prerequisite: Zoology 100. Laboratory fee $5.00. (3) I. MR. ALICATA.

254 INSECT MORPHOLOGY. Comparative and gross morphology of insects, with special attention to structures emphasized in systematic and economic entomology. Homologies of structures in the various groups of insects; anatomy; development in representative groups. Two lecture-laboratory periods a week. Prerequisite: Zoology 170. Laboratory fee $1.00. (3) I. MR. TUTHILL.

255 SYSTEMATIC ENTOMOLOGY. Classification of insects; practice in insect taxonomy; history of nomenclature; the International Code. Each student selects a particular group for special study, collection, and report. Two lecture-laboratory periods a week. Prerequisite: Zoology 254. Laboratory fee $2.00. (3) II. MR. TUTHILL.

260 HISTOLOGY. Studies of tissues, principles of histology, and microscopic anatomy of a limited number of vertebrate animals. Two lectures and two laboratory periods a week. Prerequisite: Zoology 151. Laboratory fee $6.00. (3) I. Miss Heizer.

261 VERTEBRATE EMBRYOLOGY. Principles of embryology illustrated by a detailed study of the development of the frog and chick. Two lectures and two laboratory periods a week. Prerequisite: Zoology 151. Laboratory fee $7.50. (3) II. Miss Heizer.

262 MICROTECHNIQUE. The fixing, staining, and mounting of tissues and entire animals and organs. Two laboratory periods a week. Prerequisite: Zoology 260. Laboratory fee $15.00. (3) II. Mr. Banner.

265 ELEMENTARY HUMAN ANATOMY. A general survey of the gross anatomy and physiology of the human body. Three lecture-recitation periods a week. Prerequisite: upper division standing. (Alternate years; offered 1948–49.) (3) I. Mr. Schber.

266 HEMATOLOGY. Study of hemoglobin and cellular elements of blood, blood cell formation, and histology of the blood-forming organs. Two laboratory periods a week. Prerequisite: Zoology 260. Laboratory fee $7.50. (Not offered 1948–49.) (2) II.

273 AGRICULTURAL ENTOMOLOGY. The important insects of Hawaiian crops; chemical, biological, and cultural control. Field trips and reports. Assignments on the literature of economic entomology. Two lectures and two laboratory periods a week. Prerequisite: Zoology 170. Laboratory fee $3.00. (3) II. Mr. Holdaway.

275 GENERAL ICHTHYOLOGY. An introduction to the study of fishes. The elements of morphology, life history, physiology, and ecology comprise the course work of the first semester. Taxonomy, distribution, and economic aspects of Pacific fishes with emphasis on commercially important species will comprise the work for the second semester. Two lectures and two laboratory periods a week. Prerequisite: Zoology 100. Laboratory fee $8.00. (3–3) Yr.

276 BIOMETRY. Elementary statistical methods and their application to biological data. Three lecture-recitation periods a week. Prerequisites: Zoology 100; Mathematics 151. (3) I. Mr. Tester.

277 BIOMETRICAL ANALYSIS. A continuation of Zoology 276. Special attention is given to the treatment of small samples, to the design of experiments, to the analysis of data through correlation, regression, and association, and to graphic methods. Three lecture-recitation periods a week. Prerequisite: Zoology 276 or equivalent. Desirable preparation: Mathematics 153. (3) II. Mr. Tester.

280 COMPARATIVE MORPHOLOGY OF INVERTEBRATES. Comparative anatomy, physiology, development, and phylogeny of the invertebrate animals. Two lectures and two laboratory periods a week. Prerequisite: Zoology 100. Laboratory fee $10.00. (3) I. Mr. Banner.
281 TAXONOMY AND ECOLOGY OF MARINE INVERTEBRATES. Natural history, behavior, classification, and the relation of invertebrate animals to their complete environment, with special emphasis upon marine communities. Two lectures and two laboratory periods a week. Prerequisite: Zoology 100. Desirable preparation: Zoology 240, 280. Laboratory fee $6.00. (3) II. MR. HIATT.

284 COMPARATIVE INVERTEBRATE PHYSIOLOGY. Comparative studies on digestion, respiration, circulation, excretion, ciliary and muscular movement, receptors, coordination by nervous action and hormones, and reproduction with special emphasis upon marine invertebrates. Two lectures and two laboratory periods a week. Prerequisites: Zoology 100; Chemistry 103. Desirable preparation: Zoology 291; Physics 102. Laboratory fee $7.50. (3) I. MR. SCHEER.

285 ORGANIC EVOLUTION. The doctrine of organic evolution, its historical development, supporting evidence, and material basis. Two lectures a week. Prerequisites: Zoology 100; upper division standing. Desirable preparation: Zoology 151, 261; Agriculture 254. (2) II. MR. DE LAUBENFELS.

287 METHODS OF FISHERY INVESTIGATION. A survey of the appropriate methods of investigation applied to problems in fishery biology, with emphasis upon those problems concerning pelagic and shore fisheries of the central Pacific area. Three lectures a week. Prerequisites: Zoology 275 or equivalent; Zoology 276. Desirable preparation: Zoology 277. (3) I. MR. TESTER.

290 OCEANOGRAPHY. Theory and techniques of physical, chemical, and biological oceanography, with special emphasis upon the pelagic life of the oceans and its relation to the physical and biological environment. Two lectures and two laboratory periods a week. Prerequisites: Zoology 100; Chemistry 103; Physics 102. Desirable preparation: Zoology 280 or 281; Chemistry 230. Laboratory fee $10.00. (3) II. MR. BANNER.

291 GENERAL PHYSIOLOGY. Physical and chemical properties of protoplasm and functions of the systems of organs of the animal body, with emphasis on the fundamental principles of physiology. Two lectures and two laboratory periods a week. Prerequisites: Zoology 100; Chemistry 103, 149. Desirable preparation: Zoology 151; Physics 102. Laboratory fee $6.00. (3) II. MR. SCHEER.

299 DIRECTED READING OR RESEARCH. Prerequisite: consent of instructor. (Ar.) STAFF.

300 DIRECTED RESEARCH. Directed research in the fields of ichthyology, marine zoology, oceanography, vertebrate natural history, ornithology, anatomy, histology, cytology, physiology, entomology, genetics, and parasitology. Prerequisites: graduate standing and consent of instructor. (Ar.) STAFF.

310 GENERAL ZOOLOGY SEMINAR. Presentation of reports upon research, or reviews of zoological literature. Prerequisite: senior or graduate standing in zoology. May be repeated. Senior and graduate students majoring in zoology or entomology are required to take either this course, Zoology 311, or 312. (1-1) Yr. STAFF.
311  ENTOMOLOGY SEMINAR. The literature of entomology with emphasis upon current literature and recent advances. Reviews; reports on research. Prerequisite: advanced standing in entomology or consent of instructor. May be repeated. (1) I. STAFF.

312  SEMINAR IN MARINE ZOOLOGY. Presentation of reports upon research, or reviews of literature pertaining to marine zoology. Prerequisite: senior or graduate standing in zoology. May be repeated. (1-1) Yr. STAFF.

315  ZOOLOGICAL LITERATURE. A survey of the zoological literature with stress upon bibliographic tools. One lecture a week. Prerequisite: senior or graduate standing. Required for all candidates for advanced degrees in zoology or entomology. (1) I. STAFF.

316  PREPARATION OF SCIENTIFIC MANUSCRIPTS. Consideration of styles and methods of preparing scientific manuscripts for publication, editing, and proofreading. One lecture a week. Prerequisite: senior or graduate standing. Required for all candidates for advanced degrees in zoology or entomology. (1) II. MR. TUTHILL.

352  INSECT ECOLOGY. Insects as living units in an environment of physical and biotic factors. Habitats, populations, autecology, and synecology. Lectures, discussions, field studies, laboratory work, reports. Two lectures and one laboratory period a week. Prerequisite: Zoology 255 or its equivalent or advanced standing. Required for all candidates for advanced degrees in zoology or entomology. (Alternate years; offered 1948-49.) (3) I. MR. HOLDAWAY.

353  PRINCIPLES OF APPLIED ENTOMOLOGY. The problems of economic entomology from the standpoint of history and recent advances. Reduction of insect injury by reduction of insect numbers and reduction of host susceptibility. Principles of chemical, biological, genetic, and physiological control. Lectures and reports. Prerequisite: advanced standing. Desirable preparation: Zoology 352. (Alternate years; not offered 1948-49.) (3) I. MR. HOLDAWAY, STAFF.

355-356  INSECT-TRANSMITTED DISEASES OF PLANTS. A year course comprising lectures and laboratory studies in the first semester and current literature in the second semester. Prerequisite: advanced standing. Second semester may be repeated. (3-1) Yr. MR. CARTER.
### SUMMARY OF ENROLLMENT FOR 1947-48

*(A) In Regular University Day and Evening Credit Courses*

<table>
<thead>
<tr>
<th>CANDIDATES FOR DEGREES, DIPLOMAS, AND CERTIFICATES</th>
<th>1st Semester</th>
<th>2nd Semester</th>
<th>Year*</th>
</tr>
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<tbody>
<tr>
<td>Graduate Division</td>
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</tr>
<tr>
<td>Advanced Degrees</td>
<td>79</td>
<td>149</td>
<td>149</td>
</tr>
<tr>
<td>Five-Year Diplomas</td>
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<td>39</td>
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<tr>
<td>Professional Teaching Certificates</td>
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<td>54</td>
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<td>College of Arts and Sciences</td>
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<tr>
<td>Total Degree Candidates</td>
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<td>Total Certificate and Diploma Candidates</td>
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<td>Total Classified Students</td>
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<td>Undergraduates</td>
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<td>261</td>
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<td>Auditors</td>
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<td>82</td>
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<td>Duplicates†</td>
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<td>Grand Total</td>
<td>3,837</td>
<td>3,706</td>
<td>4,312</td>
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### SUMMARY OF ENROLLMENT FOR 1947-48 (Continued)

(B) In University Extension Classes

<table>
<thead>
<tr>
<th>Non-Credit</th>
<th>1,632</th>
<th>1,501</th>
<th>3,133</th>
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<tr>
<td>On the Campus</td>
<td>1,632</td>
<td>1,501</td>
<td>3,133</td>
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<tr>
<td>Off the Campus</td>
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<td>550</td>
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<tr>
<td>Credit, College Correspondence</td>
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<td>162</td>
<td>219</td>
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<tr>
<td>Credit, Extension Classes</td>
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<td>219</td>
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<td><strong>Total</strong></td>
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<td>2,113</td>
<td>4,208</td>
</tr>
</tbody>
</table>

*Although the majority of students register for both semesters, some drop out at the end of the first semester and others enter at the beginning of the second semester. Therefore, the figures used in this column represent the total number of individuals registered for the year rather than the sum of the first and second semester registrations.

† Undergraduates first semester, graduates second semester. Also change of college between semesters.
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